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ABSTRACT

The validity and reliability of the Institutional Performance Survey (IPS) as an institutional self-study instrument were assessed, with a focus on four types of validity (content, face, construct, and concurrent) and three types of reliability (test-retest, internal consistency, and rater reliability). It was found that IPS appears to reasonably assess most of its constructs/dimensions; however, its use of ambiguous language and weak assessment of five scales are problem areas, and the questionnaire also lacks a "don't know" response category. While IPS may be useful at the beginning of an institutional self-study in identifying institutional strengths and weaknesses, it fails to investigate what an institution's scores on dimensions actually mean and how conditions are related and affect one another. Variables assessed by IPS within the following eight categories are identified: changes in the institutional environment, institutional functioning, revenues, enrollments, institutional culture, strategy, resource allocation, and institutional effectiveness. The IPS is also compared with the Institutional Functioning Inventory, Institutional Goals Inventory, and the Needs Assessment Survey. Appended are the IPS instrument and the IPS 1985 Executive Report, which examines the eight categories/dimensions of the survey. (SW)

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# AN ASSESSMENT OF THE VALIDITY AND RELIABILITY OF THE INSTITUTIONAL PERFORMANCE SURVEY

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AN
ASSESSMENT OF THE VALIDITY AND RELIABILITY OF THE
INSTITUTIONAL PERFORMANCE SURVEY

## Executive Summary

The Institutional Performance Survey (IPS) is the by-product of a national research study whose primary intent was to assess how various institutional conditions were related to an institution's external environment, strategic competence, and effectiveness. After the IPS was used in the national study many institutions sought to purchase the instrument for self-study purposes. The intent of the current effort is to assesss the validity and reliability of the IPS with respect to its use as an institutional self-study instrument.

## Psychometric Assessment

The validity of an instrument reflects the accuracy with which meaningful and relevant measurement can be made with it in the sense that it actually measures the traits it was intended to measure. For every validation procedure the essential question is: for whom and for what purpose is the test to be valid. Several different types of "validity" are discussed in the psychometric literature. Four shall be assessed in this evaluation: content, face, construct, and concurrent.

### Content Validity

Content validity is concerned with the adequacy of sampling from the domain or domains an instrument purports to measure. In

assessing the content validity of the IPS we are confronted by its dual roles--first as a research tool, and second as a diagnostic or assessment instrument for institutional managers. This assessment focuses on its latter role.

Unfortunately, existing research offers little guidance regarding the criteria that should be employed (that is, that are appropriate and essential) to judge the content validity of a college and university self-study instrument. Hence, in order to evaluate this form of validity the investigation was forced to compare the IPS with instruments whose purposes were tangentially related to the IPS.

The results of these comparisons suggest that the IPS measures a great number of the dimensions or constructs that other instruments view as important to institutional self-study. The IPS also appears to assess dimensions not tapped by other instruments. These include perceptions of 1) competition, 2) enrollment and revenue conditions, 3) resource allocation, and 4) institutional functioning--specifically, investor confidence, reallocation priorities, and slack resources. At the same time, however, the results of the comparisons suggest that the IPS is not measuring a number of dimensions that other instruments view as important. At the most general level, these include:

(1) The assessment of educational outcomes. This type of assessment generally entails some form of student evaluation.

(2) The assessment of educational climate. Again, this type of assessment generally entails some form of student evaluation.

(3) The assessment of relations between members of different groups--for example, between faculty and their department chair; or, between department chairs/deans and the president.

(4) The assessment of both current conditions and desired conditions.

(5) The assessment of institutional public service and research goals.

(6) The assessment of productivity and efficiency.

Face Validity

The face validity of a test is concerned with what it appears to measure, not with what it actually measures. Face validity is essential because without it, a test is unlikely to be purchased, employed, or given serious consideration by respondents. Three meanings have been attributed to face validity: 1) validity by definition, 2) validity by assumption, and 3) validity by appearance.

A test is considered to be valid by definition if the sample of items appear to the subject-matter expert to adequately represent the total universe of appropriate questions. The IPS appears to fall short on this criterion--it was not reviewed by anyone outside of NCHEMS. On the other hand, as previously noted in the discussion of the instrument's content validity, the

appropriate domain of institutional self-study is neither empirically defined, nor agreed upon. This makes it difficult to obtain subject-matter experts to review the instrument.

Validity by assumption requires that the items of the instrument bear a "common-sense" relationship to the objective of the test. The validity of the IPS on this criterion was assessed by interviewing faculty and administrators at five institutions regarding their interpretations and assessment of the instrument. Their comments generally suggest that most of the questions were interpreted as intended. However, several problems appear to attend both the language and construction of the instrument.

Included among their criticisms was the use of jargon, failure to include a "Don't Know" response category, the use of ambiguous language, and the point assignment format for Section 5 (Type of Institution).

The appearance of validity criterion is primarily concerned with the extent to which an instrument appears practical, pertinent, and related to its intended use. Judgment may be based on the extent to which consumers believe the instrument meets their information needs and respondents feel that it is a worthwhile investment of their time and the institution's money. The IPS's primary consumer is the top administrative team and persons delegated by them to carry out the study. A second and overlapping set of consumers involves those charged with acting on the results of the study.

Comments included with respondents' questionnaires and those solicited during interviews yield mixed perceptions regarding the

quality of the instrument. However, the primary issue raised by respondents was not the quality of the instrument, but with what was to be done with the results of the endeavor.

Construct Validity

Construct validity is concerned with developing evidence that a test measures a certain variable defined by a theory. This form of validation is ordinarily studied when we have no definitive criterion of the attributes or qualities with which we are concerned, and must use indirect measures. The construct validity of an instrument cannot be directly assessed. Rather, one must employ different types of assessment procedures and data--e.g., analyses of group differences, item-analyses, inter-item and scale correlations, change over occasions, internal test structure, factor analyses, test taking process--that may be regarded as suitable evidence for both the existence of the construct, and the instrument's ability to measure it.

The data employed to assess the construct validity of the IPS were collected as a part of a 1983 research study. The criteria for institutional selection included: status as a four-year institution, enrollment size (200 to 20,000 students), institutional control (public versus private), the presence or absence of graduate programs and enrollment change. 334 institutions and some 3200 respondents participated in the study.

Item Analysis. An examination of the items' response rate was made to determine whether participants failed to respond to any particular items. A high non-response rate would indicate

that an item is not effectively worded (e.g., it is unclear, intimidating) or that it is not applicable to the respondent or the institution. Low response rate items should not be considered valid items and ought to be excluded from further analyses.

Eighty-eight percent of the items had a 98% or better response rate and there appeared to be no pattern to the non-responses. The high response rate and variability of responses suggests that 1) respondents understood the questions, and 2) that the items can discriminate between institutions that actually differ on the dimensions being assessed--that is, essentially none of the items are ranked the same by all respondents. An item ranked the same by all respondents would provide no useful information.

Factor Structure and Internal Consistency. Five of the eight sections (1, 2, 3, 4, and 6) of the IPS include questions that purport to measure unrelated dimensions or constructs. Two ways of assessing the extent to which this is true include examination of 1) the correlations between items in each section, and 2) the factors these correlations yield. Low correlations between items in the same section would be evidence that each item measures a relatively unique construct or dimension. Similarly, poorly defined factors (i.e., in terms of a "simple structure" criterion) would also be evidence that individual items are measuring relatively unique dimensions. The results of the analyses strongly suggest that the items contained in each of the sections measure relatively unique constructs or dimensions.

The questions in Sections 5, 7, and 8 measured predefined scales. The results of correlational analysis, factor analyses, and internal consistency assessments suggest that the items in Section 5 are reasonably good measures of their constructs. However, the results of our analysis suggests that several changes must be made in the questions that comprise Sections 7 and 8.

Our concerns regarding Section 7 (Resource Allocation) are based on the poor correlations between paired items in two of the six dimensions this section purports to measure: Bureaucratic Allocation, Political Allocation.

The problems with Section 8 (Institutional Effectiveness) derive from the failure of the factor analyses to identify the nine dimensions the items in this section purport to measure. More specifically, the results of our analysis do not support separate factor scores for Student Academic Development, Professional Development & Quality of the Faculty, and Ability to Acquire Resources.

The studies comparing different groups' performance on the IPS lead to generally positive conclusions. Observed differences in the scores of public and private institutions generally reflect the kinds of differences one would expect to find as a function of differences in the mission, role, and structure of these institutions.

Concurrent Validity

Concurrent validity is concerned with the relationship between test scores and an accepted criterion of performance on

the dimensions the test purports to assess. The reason for constructing a test for which one already has data is that the test saves time and expense, but gives the same results as the criterion measure. This form of validity is usually evaluated in terms of the correlation between the test and the criterion measure.

Unfortunately, no criterion data are available with respect to the IPS that might be used to estimate a concurrent validity index. However, ethnographic data are available for eight institutions that used the IPS in an NCHEMS case study research project.

A comparison of the results of the IPS with the ethnographic data for one of these institutions indicated a number of similarities and differences. The IPS data generally support what is reported in the ethnography. However, the IPS fails to capture or reflect the interrelationships between the dimensions assessed. This is not surprising in view of the modular nature of the instrument--that is, it is concerned with assessing single, relatively unique dimensions of performance. The instrument leaves the interpretation of scores and patterns of scores to the user. The IPS is certainly not alone in doing this. However, the comparison reveals that its modular nature may obscure or be insensitive to important institutional dynamics.

## Reliability

Common synonyms for reliability include dependability, consistency, and stability. Reliability problems are concerned

with the accuracy with which a measuring instrument (e.g., a test) measures whatever it measures. Formally stated, the evaluation of reliability is the determination of how much of the variation in a set of test scores is due to certain systematic differences among the individuals in the group and how much to other sources of variation that are considered, for particular purposes, errors of measurement. There are numerous ways in which we can assess a test's reliability. These include test-retest, internal consistency, and rater reliability.

Test-Retest Reliability

No adequate data were available to assess the test-retest reliability of the IPS.

Internal Consistency Reliability

As previously noted, five of the eight sections of the IPS (Sections 1, 2, 3, 4, and 6) include questions that are intended to measure relatively unique dimensions. To estimate this form of reliability for these sections would be inappropriate. The questions in Sections 5, 7, and 8, measured predefined scales. Discussions of the results of analyses pertinent to these sections are included in the section on construct validity.

Rater Reliability

Rater reliability is concerned with the degree of similarity or agreement between raters' evaluation of an object or set of objects. The report format of the IPS implicitly assumes that

group members' scores may be meaningfully aggregated. The validity of this assumption may be assessed by estimating the intraclass correlation coefficient for each item of the instrument.

Estimated coefficients ranged between 0 and .60. However, more than 80% of the coefficients are less than .30. The generally low nature of these estimates suggest that it is inappropriate to believe that group means fairly reflect the perceptions of individual group members. In other words, employing group means to draw conclusions about perceptions of institutional performance, or to make generalizations about conditions, may lead to spurious conclusions. This suggests that 1) the IPS report should include frequency data for each respondent group on each item; and, 2) the Executive Report should be rewritten to address this problem.

## Conclusion

In general, the Institutional Performance Survey appears to do a reasonably good job of assessing most of the constructs or dimensions it purports to measure. Its most serious problems include the 1) use of ambiguous language; 2) weak assessment of two of the six scales in Section 7 (Bureaucratic Allocation, and Political Allocation), and probably three of the nine scales in Section 8 (Student Academic Development, Professional Development & Quality of the Faculty, and Ability to Acquire Resources); 3) lack of a "Don't Know" response category in the questionnaire; and

4) lack of item-response frequencies in the Executive Report. It would seem that all of these problems can be easily remedied.

In considering the overall utility of the instrument two factors appear to be critical. First, it seems that the best and most appropriate use of the IPS is to employ it as a means of beginning an institutional self-study. That is, the IPS appears to do a fairly good job of identifying many institutional strengths and weaknesses. However, failure to seriously investigate 1) what an institution's scores on the dimensions assessed actually mean; and 2) how conditions are related and impact one another--may lead to spurious or inappropriate conclusions.

Second, the most critical factor determining the utility of the IPS is the extent to which participants in the assessment process believe that their efforts will have an impact on institutional conditions. The utility of the instrument is not primarily a function of what it measures or fails to measure. Rather, its utility is primarily a function of the commitment and expectation of those involved that something positive will actually come from their efforts.

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The Institutional Performance Survey (IPS) is the by-product of a national research study whose primary intent was to assess how various institutional conditions were related to an institution's external environment, strategic competence, and effectiveness. After the IPS was used in the national study many institutions sought to purchase the instrument for self-study purposes. The intent of the current effort is to assess the validity and reliability of the IPS with respect to its use as an institutional self-study instrument.

We begin by providing a brief overview of the instrument and the thinking behind its development. The remainder and lion's share of the assessment will focus on reporting and interpreting analyses performed to assess its psychometric properties.

## The IPS

The development of the IPS followed from the efforts of NCHEMS Organizational Studies Division's attempts to address three questions (NCHEMS-Organizational Studies FY 83-84 Technical Proposal, IV: 21-25):

1) Can diagnostic instruments be developed that accurately assess instititutonal conditions relative to the external environment, strategic competence, and level of effectiveness?

2) What are the most powerful predictors of effective strategic adaptation to conditions of decline in higher education?

3) What characteristics of top managers in higher education are associated with successful institutional adaptation?

Research done by the Organizational Studies (OS) Division identified eight areas and concomitant variables in which questions would have to be developed in order to address the issues noted above. The areas included: external environment, enrollment conditions, revenue conditions, structural and process characteristics, culture, strategy, resource allocation, and effectiveness. Descriptions of the areas and variables, and the questions that are intended to operationalize them are contained in the administrative feedback report. This report, formally referred to as the "Executive Report," summarizes the results of the IPS for a specific institution. A sample report, which includes a copy of the IPS, is included as Appendix 1.

The pilot version of the instrument was administered at a local four-year institution. OS staff talked with respondents about their reactions to the questionnaire and their interpretation of specific questions. The results of this effort were used to modify the instrument. The modified version, which was called "An Assessment of the Performance of Colleges and Universities," was used to conduct the national research study in 1983. A copy of this instrument is included as Appendix 2. Comparison of the IPS with the instrument used in the 1983

national study reveals minor differences in organization and format. The IPS also excludes a handful of questions that appeared to be redundant and/or ambiguous.

## Psychometric Assessment

The purpose of this research is to assess the validity and reliability of the IPS. We shall begin with the validity issue. According to Magnusson, "the validity of a method is the accuracy with which meaningful and relevant measurement can be made with it, in the sense that it actually measures the traits it was intended to measure" (1967, p. 124). He argues that for every validation procedure the essential question is: for whom and for what purpose is the test to be valid. Several different types of validity are discussed in the psychometric literature. Here are brief characterizations of the ones that shall be addressed in this assessment.

**Face validity**, as noted by Ebel, "refers not to what a test necessarily measures, but to what it appears to measure" (1972, p. 437). According to Mosier (1967), three meanings have been attributed to the term: 1) validity by definition--the items appear to the "subject-matter expert" to adequately represent the domain of interest; 2) validity by assumption--the items appear "on their face" to bear a common sense relationship to the objective of the test; and, 3) validity by appearance--the test should be perceived as pertinent and related to its intended purposes.

**Content validity** is concerned with the adequacy of sampling of the specified universe of content (Ebel, 1972). Before content validity can be assessed one must explicitly define the domain an instrument is intended to assess. Having done so, one must then determine the extent to which the sample of items in the test is representative of the total population (domain).

**Concurrent validity**, according to Ebel, "is concerned with the relation of test scores to an accepted contemporary criterion of performance on the variable that the test is intended to measure" (1972, p. 436). The reason for constructing a test to measure a variable for which one already has data is, in most cases, that the test saves time and expense, but gives the same results as the criterion measure (Magnusson, 1967).

**Construct validity** is concerned with the validation of tests that purport to measure hypothetical attributes or qualities. Construct validity is ordinarily studied when we have no definitive criterion measure of the qualities or attributes with which we are concerned, and must use indirect measures.

## Content Validity

As previously noted, content validity is concerned with the adequacy of sampling from the domain or domains an instrument purports to measure. In assessing the content validity of the IPS we are confronted by its dual roles--first as a research tool, and second as a diagnostic or assessment instrument for institutional managers. While these roles overlap, they are not equivalent. Thus, while the instrument may demonstrate strong validity when assessed on the first criterion, it may be seriously lacking when evaluated on the second.

In considering the content validity of the IPS with respect to its use by institutional managers we must concern ourselves with what it is supposed to be used for--a self-study tool. According to the "Executive Report," the IPS "provides administrators with information about institutional characteristics, functioning, and performance." Remedial action is suggested when the data indicate negative perceptions of institutional performance on these dimensions, and/or when there are major differences of opinion about performance.

Unfortunately, the research literature offers little guidance regarding the criteria that should be employed (that is, that are appropriate and essential) to judge the content validity of a college and university self-study instrument. However, at least two other possibilities for evaluating the content validity of the IPS seemed possible. The first entails comparing the dimensions and constructs assessed by the IPS with those assessed

by similar instruments--similar in the sense that they purport to measure the same things or serve the same purpose.

The second involves capitalizing on work currently in progress at NCHEMS that is concerned with developing a compendium of measures to assess institutional effectiveness (Krakower, 1985). The compendium utilizes a framework that is intended to include most of the criteria that are pertinent to institutional effectiveness. We can compare the dimensions included in the effectivenes framework with those assessed by the IPS.

Unfortunately, both alternatives entail some problems. First, the terminology used to describe the constructs and dimensions to be compared is not universal. For example, a question or construct may be labeled "autonomy" in one study, and be referred to as "freedom" in another--even though the questions are identical. Conversely, questions or constructs may be labled identically and be concerned with different issues. There is no simple solution to this problem. In the analyses that follow, comparisons will be based on the descriptions of factors and the questions that purport to measure them rather than on titles or labels.

Second, the comparisons that follow simply indicate whether or not the IPS includes at least one or more questions on the domains of interest. True content validation is concerned with the adequacy of sampling within the domains of interest. Unfortunately, the resources allocated to this project, the lack of gospel in the literature, and the lack of clarity in the purpose of the IPS, obviate a true assessment.

In the analyses that follow the dimensions or constructs assessed by the IPS are compared with three published instruments: Institutional Functioning Inventory (Educational Testing Service, 1970), Institutional Goals Inventory (Educational Testing Service, 1977), and the Needs Assessment Survey (Higher Education Management Institute, 1981). In comparing the IPS with these instruments it is essential to keep in mind that each serves slightly different purposes. Hence, we should expect that those instruments may assess factors and constructs not assessed by the IPS. Conversely, it will be seen that the IPS assesses dimensions that are not assessed by any one or combination of these instruments. A list of the variables assessed by the IPS are reported in Table 1.

Institutional Functioning Inventory and the IPS

According to the technical manual of the Institutional Functioning Inventory (IFI), the IFI was developed primarily as a self-study instrument. It is described as providing a means by which a college or university can describe itself in terms of a number of characteristics judged to be of importance in American higher education. "The instrument assumes that different individuals and constituent groups will perceive the institution differently; the IFI affords the opportunity for study of sources of disparate beliefs about the work of the college."[1]

[1]Richard E. Peterson, John A. Centra, Rodney T. Hartnett, Robert L. Linn. Institutional Functioning Inventory: Preliminary Technical Manual, Educational Testing Service, Princeton, New Jersey, 1983, p. 1.

Table 1
Variables Assessed by the
Institutional Performance Survey

1. CHANGES IN THE INSTITUTIONAL ENVIRONMENT
   1. Enrollment Predictability
   2. Revenue Predictability
   3. Competitor Predictability
   4. Students' Tastes and Preferences
   5. Intensity of Competition
   6. Enrollment Competition
   7. Supply of Students
   8. Availability of Financial Resources

2. INSTITUTIONAL ENROLLMENTS
   1. Consensus
   2. Inevitability
   3. Administrative Control
   4. Duration
   5. Threat

3. INSTITUTIONAL REVENUES
   1. Consensus
   2. Inevitability
   3. Administrative Control
   4. Duration
   5. Threat

4. INSTITUTIONAL FUNCTIONING
   1. Specialization
   2. Formalization
   3. Mission
   4. Investor Confidence
   5. Structural Coupling
   6. Centralization
   7. Planning
   8. Innovation
   9. Scapegoating
   10. Resistance to Change
   11. Administrative Turnover
   12. Morale
   13. Slack Resources
   14. Interest Groups
   15. Administrator Credibility
   16. Reallocation Priorities
   17. Conflict
   18. Locus of Control
   19. Internal Mobility

5. INSTITUTIONAL CULTURE
    1. Type
    2. Leader
    3. Cohesion
    4. Emphases

6. INSTITUTIONAL STRATEGY
    1. Diversity
    2. Conservatism
    3. Moderate Change
    4. Innovation
    5. Administration

7. RESOURCE ALLOCATION
    1. Bureaucratic Allocation
    2. Autocratic Allocation
    3. Collegial Allocation
    4. Rational Allocation
    5. Allocation as Organized Anarchy
    6. Political Allocation

8. INSTITUTIONAL EFFECTIVENESS
    1. Student Educational Satisfaction
    2. Student Academic Development
    3. Student Career Development
    4. Student Personal Development
    5. Faculty and Administrator Employment Satisfaction
    6. Professional Development and Quality of the Faculty
    7. System Openness and Community Interaction
    8. Ability to Acquire Resources
    9. Organizational Health

The IFI contains 132 items which measure eleven dimensions or scales. Brief descriptions of these scales are provided in Table 2. The manual points out that high scores on all the dimensions assessed by the instrument would not necessarily be good for all colleges. The critical factor in assessing respondents perceptions is 1) the mission and objectives of the institution; and 2) significant differences between administrator and faculty perceptions of the institution.

The data in Table 3 shows the results of our comparison of the dimensions assessed by the IPS with those assessed by the IFI. The data in this table indicate that the IPS includes questions that touch upon eight of the eleven dimensions or areas assessed by the IFI. The three areas in which no overlap seems to occur are: 1) Freedom, 2) Concern for Improvement of Society, and 3) Concern for Undergraduate Learning. We shall defer discussion of these differences in favor of a summary assessment based on all the comparisons that follow.

Institutional Goals Inventory and the IPS

The Institutional Goals Inventory (IGI) was "developed as a tool that a college may use in the process of identifying basic campus goals and in determining priorities among diverse goals. Additionally, the IGI can indicate the degree of consensus among people at the college regarding the importance of each goal."[2]

[2]Richard E. Peterson and Norman P. Uhl. Formulating College and University Goals: A Guide for Using the IGI. Educational Testing Service, Princeton, New Jersey, 1977, p. 1.

Table 2
Dimensions assessed by the
Institutional Functioning Inventory

1. Intellectual-Aesthetic Extracurriculum refers to the availability of activities and opportunities for intellectual and aesthetic stimulation outside the classroom.

2. Freedom has to do with academic freedom for faculty and students as well as freedom in their personal lives for all individuals in the campus community.

3. Human Diversity has to do with the degree to which the faculty and student body are heterogeneous in their backgrounds and present attitudes.

4. Concern for Improvement of Society refers to a desire among people at the institution to apply their knowledge and skills in solving social problems and prompting social change in America.

5. Concern for Undergraduate Learning describes the degree to which the college -- in its structure, function, and professional commitment of faculty -- emphasizes undergraduate teaching and learning.

6. Democratic Governance reflects the extent to which individuals in the campus community who are directly affected by a decision have the opportunity to participate in making the decision.

7. Meeting Local Needs refers to an institutional emphasis on providing educational and cultural opportunities for all adults in the surrounding area, as well as meeting needs for trained manpower on the part of local businesses and government agencies.

8. Self-Study and Planning has to do with the importance college leaders attach to continuous long-range planning for the total institution, and to institutional research needed in formulating and revising plans.

9. Concern for Advancing Knowledge reflects the degree to which the institution -- in its structure, function, and professional commitment of faculty -- emphasizes research and scholarship aimed at extending the scope of human knowledge.

10. Concern for Innovation refers, in its highest form, to an institutionalized commitment to experimentation with new ideas for educational practice.

11. Institutional Esprit refers to a sense of shared purposes and high moral among faculty and administrators.

Table 3
Comparison of the Institutional Performance Survey
With the
Institutional Functioning Inventory

| Institutional Functioning Inventory | IPS | |
|---|---|---|
| 1. Intellectual-Aesthetic Extracurriculum | Y | |
| 2. Freedom | | N |
| 3. Human Diversity | Y | |
| 4. Concern for Improvement of Society | | N |
| 5. Concern for Undergraduate Learning | | N |
| 6. Democratic Governance | Y | |
| 7. Meeting Local Needs | Y | |
| 8. Self-Study and Planning | Y | |
| 9. Concern for Advancing Knowledge | Y | |
| 10. Concern for Innovation | Y | |
| 11. Institutional Esprit | Y | |

Included among the uses cited for IGI data are planning, evaluation, curriculum design, and organizational development.

The IGI consists of 90 goal statements. Eighty are related to twenty goal areas, four per goal area. The remaining ten are miscellaneous--each reflecting a goal to be sufficiently important to be included, but as a single statement only. Brief descriptions of the goal areas are included in Table 4.

The IGI differs most in format from the other instruments included in this comparison in that it asks each respondent to make two judgments on each question: 1) how important the goal "is"; and 2) how important the goal "should be." Suggested study participants include faculty, administrators, students, trustees, members of the community, and alumni.

Table 5 reports the results of the comparison of the IPS with the IGI. The data in this table indicate that the IPS touches upon seventeen of the thirty goal areas assessed by the IGI. The IPS appears to assess slightly more than half of the goals considered by the developers of the IGI as critical to institutional planning, development, evaluation, and curriculum design.

Needs Assessment Survey and the IPS

The Needs Assessment Survey (NAS) is just one component of a five phase management development program jointly developed by the American Council on Education and the Higher Education Management Intitute. Participation in the program generally entails a 36 to 48 month commitment. The NAS is characterized as the means within

Table 4
Dimensions Assessed by the
Institutional Goals Inventory

1. OUTCOME GOALS

1. Academic Development has to do with acquisition of general and specialized knowledge, preparation of students for advanced scholarly study, and maintenance of high intellectual standards on the campus.

2. Intellectual Orientation relates to an attitude about learning and intellectual work. It means familiarity with research and problem solving methods, the ability to synthesize knowledge from many sources, the capacity for self-directed learning, and a commitment to lifelong learning.

3. Individual Personal Development means identification by students of personal goals and development of means for achieving them, enhancement of sense of self-worth and self-confidence.

4. Humanism/Altruism reflects a respect for diverse cultures, commitment to working for world peace, consciousness of the important moral issues of the time, and concern about the welfare of man generally.

5. Cultural/Aesthetic Awareness entails a heightened appreciation of a variety of art forms, required study in the humanities or arts, exposure to forms of non-Western art, and encouragement of active student participation in artistic activities.

6. Traditional Religiousness is intended to mean a religiousness that is orthodox, doctrinal, usually sectarian, and often fundamental -- in short, traditional rather than secular or modern.

7. Vocational Preparation means offering specific occupational curriculums (as in accounting or nursing), programs geared to emerging career fields, opportunities for retraining or upgrading skills, and assistance to students in career planning.

8. Advanced Training can be most readily understood simply as the availability of postgraduate education. It means developing and maintaining a strong and comprehensive graduate school, providing programs in the professions, and conducting advanced study in specialized problem areas.

9. Research involves doing contract studies for external agencies, conducting basic research in the natural and social sciences, and seeking generally to extend the frontiers of knowledge through scientific research.

10. Meeting Local Needs is defined as providing for continuing education for adults, serving as a cultural center for the community, providing trained manpower for local employers, and facilitating student involvement in community-service activities.

11. Public Service means working with governmental agencies in social and environmental policy formation, committing institutional resources to the solution of major social and environmental problems, training people from disadvantaged communities, and generally being responsive to regional and national priorities in planning educational programs.

12. Social Egalitarianism has to do with open admissions and suitable education for all admitted, providing educational experiences relevant to the evolving interests of minority groups and women, and offering remedial work in basic skills.

13. Social Criticism/Activism means providing criticisms of prevailing American values, offering ideas for changing social institutions judged to be defective, helping students learn how to bring about change in American society, and being engaged, as an institution, in working for basic changes in American society.

2. PROCESS GOALS

1. Freedom is defined as protecting the right of faculty to present controversial ideas in the classroom, not preventing students from hearing controversial points of view, placing no restrictions on off-campus political activities by faculty or students, and ensuring faculty and students the freedom to choose their own life-styles.

2. Democratic Governance means decentralized decision-making arrangements by which students, faculty, administrators, and governing board members can all be significantly involved in campus governance; opportunity for individuals to participate in all decisions affecting them; and governance that is genuinely responsive to the concerns of everyone at the institution.

3. Community is defined as maintaining a climate in which there is faculty commitment to the general welfare of the institution, open and candid communication, open and amicable airing of differences, and mutual trust and respect among students, faculty, and administrators.

4. Intellectual/Aesthetic Environment means a rich program of cultural events, a campus climate that facilitates student free-time involvement in intellectual and cultural activities, an environment in which students and faculty can easily interact informally, and a reputation as an intellectually exciting campus.

5. Innovation is defined as a climate in which continuous innovation is an accepted way of life; it means established procedures for readily initiating curricular or instructional innovations; and, more specifically, it means experimentation with new approaches to individualized instruction and to evaluating and grading student performance.

6. Off-Campus Learning includes time away from the campus in travel, work-study, VISTA work, etc.; study on several campuses during undergraduate programs; awarding degrees for supervised study off the campus; awarding degrees entirely on the basis of performance on an examination.

7. Accountability/Efficiency is defined to include use of cost criteria in deciding among program alternatives, concern for program efficiency, accountability to funding sources for program effectiveness, and regular submission of evidence that the institution is achieving stated goals.

Table 5

Comparison of the Institutional Performance Survey
With the
Institutional Goals Inventory

| Institutional Goals Inventory | IPS | |
|---|---|---|
| **I. Outcome Goals** | | |
| 1. Academic Development | Y | |
| 2. Intellectual Orientation | Y | |
| 3. Individual Personal Development | Y | |
| 4. Humanism/Altruism | | N |
| 5. Cultural/Aesthetic Awareness | Y | |
| 6. Traditional Religiousness | | N |
| 7. Vocational Preparation | Y | |
| 8. Advanced Training | | N |
| 9. Research | Y | |
| 10. Meeting Local Needs | Y | |
| 11. Public Service | Y | |
| 12. Social Egalitarianism | | N |
| 13. Social Criticism/Activism | | N |
| **II. Process Goals** | | |
| 1. Freedom | | N |
| 2. Democratic Governance | Y | |
| 3. Community | Y | |
| 4. Intellectual/Aesthetic Environment | Y | |
| 5. Innovation | Y | |
| 6. Off-Campus Learning | | N |
| 7. Accountability/Efficiency | | N |
| **III. Miscellaneous Goals** | | |
| 1. Reading, writing, math competency | | N |
| 2. Institutional autonomy | | N |
| 3. Reputation | Y | |
| 4. Student extracurricular activities | Y | |
| 5. Planning | Y | |
| 6. Include citizens in planning | | N |
| 7. Intercollegiate athletics | | N |
| 8. Systematic evaluation of programs | | N |
| 9. Educate outsiders about institution | Y | |
| 10. Consensus about goals | Y | |

the program of obtaining a quantitative description of an institution's "current management functioning." NAS topic areas and survey categories are shown in Table 6.

The NAS actually consists of eight different questionnaires. One for 1) staff, 2) governing board members, 3) faculty, 4) students, 5) president/chancellor, 6) committee members, 7) vice presidents/deans/directors, and 8) department/division heads. The questionnaires share some areas of overlap, but each has its own distinct set of questions that follow from the unique roles, responsibilities, and relationships that are associated with being a member of one of these groups.

The comparisons between the IPS and the NAS are based on the "factors" measured by the entire set of NAS questionnaires. These are briefly described in Table 7. The comparisons were made against the factors, as opposed to the topic areas and survey categories shown in Table 6, for two reasons.[1] First, the factors were developed using a statistical technique (factor analysis) which identifies discrete dimensions of the instrument. Many of the questions included in the NAS, however, are used to measure more than one survey category. Second, the comparisons made between the IPS and both the IFI and IGI are based on "factors" derived from these instruments. Using the factors of the NAS allows us to be consistent with the comparisons made with the other instruments.

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[1]The factors are described in detail in Chase Monograph 3: An Analysis of the ACE/HEMI Data Base. Higher Education Management Institute, 2699 Bayshore Drive, Coconut Grove, Florida, 33133.

Table 6.
Needs Assessment Survey
Topic Areas and Survey Categories

# HEMI Program Structure

| MANAGEMENT CATEGORIES | TOPIC AREAS | SURVEY CATEGORIES | TITLES OF MODULES AND DEVELOPMENT MANUALS |
|---|---|---|---|
| 1 Tasks | 1.1 Managing | 1.10 Managing, Manager<br>1.11 Managing, Standards<br>1.12 Managing, Institution | 1.1.1 Management Concepts<br>1.1.2 Managing Change<br>1.1.3 Institutional Renewal |
| | 1.2 Leading | 1.20 Leading, Influence-Have Now<br>1.21 Leading, Influence-Should Have<br>1.22 Leading, Participation<br>1.23 Leading, Competence-Leader<br>1.24 Leading, Competence-Dean<br>1.25 Leading, Competence-President<br>1.26 Leading, Competence-Board | 1.2.1 Leading 1<br>1.2.1 Leading 2<br>1.2.3 Leadership and Human Relations |
| | 1.3 Motivating | 1.30 Motivating, Manager<br>1.31 Motivating, Institution | 1.3.1 Motivating 1<br>1.3.2 Motivating 2<br>1.3.3 Organizational Climate<br>1.3.4 Management Conflict |
| | 1.4 Communicating | 1.40 Communicating, Manager<br>1.41 Communicating, Peers<br>1.42 Communicating, Institution | 1.4.1 The Communication Process<br>1.4.2 Communication Feedback<br>1.4.3 Organizational Communication |
| | 1.5 Team Building | 1.50 Team Building | 1.5.1 Team Building 1<br>1.5.2 Team Building 2 |
| | 1.6 Decision Making | 1.60 Decision Making, Manager<br>1.61 Decision Making, Institution | 1.6.1 Principles of Decision Making<br>1.6.2 Problem Solving |
| 2 Processes | 2.1 Planning | 2.10 Planning, Manager<br>2.11 Planning, Institution | 2.1.1 Institutional Planning<br>2.1.2 Defining Goals and Objectives |
| | 2.2 Budgeting | 2.20 Budgeting | 2.2.1 Budget Preparation and Control |
| | 2.3 Organizing | 2.30 Organizing, Work Activities<br>2.31 Organizing, Staffing | 2.3.1 Role and Responsibility<br>2.3.2 Legal Rights and Obligations<br>2.3.3 Recruitment and Selection |
| | 2.4 Marketing | 2.40 Marketing, External<br>2.41 Marketing, Prospective Students | 2.4.1 Preparing and Using a Marketing Plan |
| | 2.5 Evaluating | 2.50 Evaluating, Manager<br>2.51 Evaluating, Institution | 2.5.1 Individual Development Planning<br>2.5.2 Productivity<br>2.5.3 Individual Progress Review<br>2.5.4 Institutional and Program Evaluation |

## 3 Activities

| | | |
|---|---|---|
| 3.1 Instruction | 3.10 Instruction, Department/Division<br>3.11 Instruction, Institution<br>3.12 Instruction, Change | 3.1.1 Instruction |
| 3.2 Research | 3.20 Research | 3.2.1 Research |
| 3.3 Public Service | 3.30 Public Service | 3.3.1 Public Service |
| 3.4 Academic Support | 3.40 Academic Support | 3.4.1 Libraries<br>3.4.2 Media Services |
| 3.5 Student Services | 3.50 Student Services | 3.5.1 Admission and Recruitment<br>3.5.2 Registration and Records<br>3.5.3 Financial Aid<br>3.5.4 Counseling and Career Guidance<br>3.5.5 Health Services<br>3.5.6 Student Activities |
| 3.6 Institutional Support | 3.60 Institutional Support Services | 3.6.1 Personnel and Payroll<br>3.6.2 Purchasing and Accounting<br>3.6.3 Administrative Data Processing<br>3.6.4 Public Relations/Development<br>3.6.5 Physical Plant |
| 3.7 Independent Operations | 3.70 Independent Operations | 3.7.1 Bookstore<br>3.7.2 Food Services<br>3.7.3 Student Residences |



## 4 Skills

| | | |
|---|---|---|
| 4.1 Managing Time | 4.10 Management Effectiveness<br>Managing Time | 4.1.1 Time Management for Managers and Work Groups |
| 4.2 Conducting Meetings | Conducting Meetings | 4.2.1 Better Meetings<br>4.2.2 Presenting Modules |
| 4.3 Analyzing Information | Analyzing Information | 4.3.1 Management Information Systems |
| 4.4 Negotiating | Negotiating | 4.4.1 Labor Relations |
| 4.5 Career Planning | Career Planning | 4.5.1 Career Renewal<br>4.5.2 Managing Stress |

## Other Survey Categories

**5. Outcome Measures**

5.10 Educational Objectives--Are
5.11 Educational Objectives--Should Be
5.12 Perceived Reputation
5.13 Job Satisfaction

**6. Demographic Characteristics**

- Sex
- Enrollment Status
- Class Year
- Employment Status
- Years in Current Position
- Tenure Status

**7. Central Administration--Campus Relations**

7.10 Managing
7.20 Leading, Participation
7.30 Leading, Influence
Have and Should Have
7.40 Communication
7.50 Team Building
7.60 Planning and Budgeting

Table 7

Dimensions Assessed by the
Needs Assessment Survey

1. INTERPERSONAL RELATIONS

   1. Peer Relations: Open communication with peers, sufficient interaction, friendly and supportive relations.

   2. Leader/Member Relations: Open communication with group leader, sufficient interaction, friendly and supportive relations.

   3. Relations With the President: High regard for president as manager and educational leader, sufficient interaction, friendly and supportive relations.

   4. Faculty/Dean Relations: High regard for dean as manager and educational leader, sufficient interaction, friendly and supportive relations.

   5. Administrator/Faculty Relations: High regard for faculty, sufficient interaction.

   6. Administration/Department Head Relations: Good communication, confidence and trust, mutual understanding.

   7. Faculty/Student Relations: Friendly and supportive relations, good exchange of ideas, students show excitement about learning.

   8. Student/Faculty Relations: High regard for competence of instructional faculty, good communication with faculty, sufficient interaction.

2. LEADING

   1. Participative Management: Willingness of leader to seek options, suggestions, and ideas to involve others in decision making, and to delegate authority and back people up.

   2. Objectives and Standards: Leader involves group members in developing standard of performance, maintains standards, and evaluates performance.

   3. Management skills: Effectiveness of leader in managing time, conducting meetings, analyzing information, negotiating, and career planning.

3. OBJECTIVES AND PERFORMANCE REVIEW

   1. Objectives: Clarity of academic and general departmental goals and clarity of curriculum objectives.

2. Performance Feedback: Satisfaction and frequence of quality of performance feedback.

4. INFLUENCE

1. Perceived Upward Influence: Perceived influence on educational activities by faculty, department heads, and students.

2. Preferred Upward Influence: Preferred influence on educational activities by faculty, department heads, and students.

3. Perceived Downward Influence: Perceived influence on educational activities by the board, top staff, and deans.

4. Preferred Downward Influence: Preferred influence on educational activities by the board, top staff, and deans.

5. ORGANIZATIONAL CLIMATE

1. Institutional Decision Making: Objectives and fairness of budgetary decision making.

2. Institutional Communication: Quality of upward and downward communications in the institution.

3. Institutional Standards: Administration's concern for efficient use of resources and educational excellence.

4. Familiarity with Institutional Governance: Respondents' understanding of the way decisions are made at the institution.

5. Preferred Teaching Orientation: Respondents' preferred emphasis on six growth areas.

6. Perceived Teaching Orientation: Students' perception of extent this institution is contributing to six growth areas.

6. INSTITUTIONAL ENVIRONMENT

1. Responsiveness to Environment: Awareness of community needs, responsiveness to community needs, offering of nontraditional programs, and use of innovative instructional techniques.

2. Relations with External Agencies: Effectiveness of institutional relations with funding agencies, alumni, and local community.

7. OUTCOME MEASURES

1. Job/Career Satisfaction: Satisfaction with position, salary, benefits, opportunities for growth and career advancement, and research at the institution.

2. Institutional Reputation: Rating of overall reputation of the institution by respondents and by the community, professional colleagues, and prospective employees, as perceived by respondents.

3. Satisfaction with Research: Satisfaction with research facilities and quality of research at the institution.

4. Satisfaction with Academic Department Procedures: Faculty satisfaction with academic department procedures.

5. Satisfaction with Education-Related Services: Satisfaction with library, audiovisual services, research facilities, and bookstore.

6. Satisfaction with Student Services: Satisfaction with admissions, orientation, registration, course scheduling, and grade reporting.

7. Satisfaction with Ancillary Services: Satisfaction with food services, sports facilities, and recreational facilities.

8. Satisfaction with Personnel Policies/Procedures: Faculty/student satisfaction with the selection and promotion policies and procedures for faculty.

9. Satisfaction with Administrative Support Services: Satisfaction with accounting, payroll, personnel services, and administrative data processing services.

8. CAMPUS-CENTRAL ADMINISTRATION

1. Participation: Central administration's perceived willingness to seek and use input from the campuses and involve campuses in planning and budgeting.

2. Goal Clarity: Clarity of central administration's goals, objectives, policies, and procedures.

3. Communication: Adequacy of information flow from central administration to campuses.

4. Campus Relations: Sufficient interaction, friendly and supportive relations, encouragement of teamwork.

5. Influence: Perceived and preferred influence of central administration on educational activities.

Table 8 reports the results of the comparison between the NAS and the IPS. The data in this table indicate that the IPS touches on only fourteen of the thirty-nine factors assessed by the NAS. This occurs for two reasons. First, several of the factors assessed by the NAS are concerned with relations between specific groups of people, and at specific levels of the organization. The IPS is concerned with "overall" institutional conditions. Second, several of the factors assessed by the NAS are concerned with "outcome measures" related to satisfaction with specific institutional services--e.g., student services, administrative support services, ancillary services, etc. These are not assessed by the IPS.

Effectiveness Framework and the IPS

The Effectiveness Framework (EF), briefly described in Table 9, follows from efforts to develop a compendium of measures and indicators that can be used to assess organizational effectiveness. The framework is described by Krakower (1985) as including most of the criteria found in the literature on organizational effectiveness.

The EF is based on the assumption that most of the criteria that are discussed with respect to organizational effectiveness primarily fall into one of four domains--goal achievement, internal processes, organizational climate, and environmental adaptation. No assumption is made about any one domain being more important than another. However, the model on which the framework

Table 8

Comparison of the Institutional Performance Survey
With the
Needs Assessment Survey

| Needs Assessment Survey | IPS | |
|---|---|---|
| 1. Interpersonal Relations | | |
| 1. Peer Relations | Y | |
| 2. Leader/Member Relations | | N |
| 3. Relations with the President | | N |
| 4. Faculty/Dean Relations | | N |
| 5. Administrator/Faculty Relations | | N |
| 6. Administration/Department Head Relations | | N |
| 7. Faculty/Student Relations | Y | |
| 8. Student/Faculty Relations | | N |
| 2. Leading | | |
| 1. Participative Management | Y | |
| 2. Objectives and Standards | | N |
| 3. Management Skills | | N |
| 3. Objectives and Performance Review | | |
| 1. Objectives | | N |
| 2. Performance Feedback | | N |
| 4. Influence | | |
| 1. Perceived Upward Influence | | N |
| 2. Preferred Upward Influence | | N |
| 3. Perceived Downward Influence | | N |
| 4. Preferred Downward Influence | | N |
| 5. Organizational Climate | | |
| 1. Institutional Decisionmaking | Y | |
| 2. Institutional Communication | Y | |
| 3. Institutional Standards | Y | |
| 4. Familiarity with Institutional Governance | Y | |
| 5. Preferred Teaching Orientation | | N |
| 6. Perceived Teaching Orientation | | N |
| 6. Institutional Environment | | |
| 1. Responsiveness to Environment | Y | |
| 2. Relations with External Agencies | Y | |
| 7. Outcome Measures | | |
| 1. Job/Career Satisfaction | Y | |
| 2. Institutional Reputation | Y | |
| 3. Satisfaction with Research | | N |
| 4. Satisfaction with Academic Dept Procedures | | N |
| 5. Satisfaction with Education-related Services | | N |
| 6. Satisfaction with Student Services | | N |
| 7. Satisfaction with Ancillary Services | | N |
| 8. Satisfaction with Personnel Policies | | N |
| 9. Satisfaction with Admin. Support Services | | N |

| | | | |
|---|---|---|---|
| 8. | Campus-Central Administration | | |
| | 1. Participation | Y | |
| | 2. Goal Clarity | Y | |
| | 3. Communication | Y | |
| | 4. Campus Relations | | N |
| | 5. Influence | | N |

Table 9

Effectiveness Framework

I. Goal Achievement
   1. Outcomes
      a. knowledge, technology, and art forms
      b. human characteristics
      c. economic
      d. resource and service provision
      e. other maintenance and change
         i. aesthetic-cultural conditions
         ii. organizational format, activity, operations

   2. Profit -- typically thought of as the amount of revenue from sales left after all costs and obligations are met.

II. Internal Processes: This domain generally includes the (1) skills the organization's managers, commanding officers, or group leaders require for a) performing tasks centered on work to be done, and for b) interacting with other organizational members (Campbell, 110); and (2) the formal mechanisms required for an organization to function effectively.

   1. planning & goal setting -- the degree to which the organization systematically plans its future steps.

   2. staffing -- recognition of the organization's "personnel" needs, obtaining people to meet these needs, and placing people so that individual and organizational needs are in harmony.

   3. controlling -- activity that checks actual progress against planned progress and suggests ways of modifying activities falling below expected levels of performance.

   4. organizing -- recognition of the organization's needs, deploying resources to meet these needs.

   5. interpersonal relations -- motivation of people to reach goals without deterioration of morale to both themselves and the organization; consideration; employee centeredness.

6. budgeting

7. scheduling

8. property management

9. procurement

10. evaluation -- goal achievement, subsystem function, personnel, environment.

11. Information Management and Communication-the collection, analysis, and distribution of information critical to organizational effectiveness.

III. Organizational Climate

1. Autonomy
   a) autonomy -- degree to which the group is independent of other groups; self-determination of group activity
   b) control -- degree of group regulation of member behavior
   c) flexibility -- extent to which group activities are free from constraint by custom, tradition, written rules, or unwritten codes
   d) responsibility -- employee discretion in work, without supervisor checking up
   e) task structure -- the degree to which the methods used to accomplish tasks are spelled out by the organization

2. Structure
   a) orderliness
   b) routine
   c) formalization
   d) production emphasis -- close, directive supervision
   e) stratification -- differentiation of internal status hierarchy
   f) structure -- emphasis on constraints, rules, regulations and formal procedures
   g) recognition and feedback -- degree to which an individual knows what his supervisor and management think of his work and the degree to which they support him
   h) standardization

3. Consideration and Support
   a) personal dignity
   b) personal relations
   c) esprit -- morale; social and achievement need satisfaction

d) intimacy -- friendly social relations among members ; closeness of acquaintanceship; familiarity with personal details of each other's lives
e) aloofness -- high emotional distance from leader
f) permeability -- openness of group to new members
g) human resources primacy -- concern for welfare and happiness of workers
h) warmth -- friendliness within the work group and organization
i) support -- perceived helpfulness and backing received from superiors, peers, and subordinates
j) potency -- centrality of group membership in the lives of members
k) status and moral -- the general feeling among individuals that the organization is a good place in which to work

4. Synergy
a) cooperation vs. conflict
b) cohesiveness
c) hindrance -- performance hindered by petty administrative details
d) participation -- proportion of time spent in group activities
e) viscidity -- cohesiveness; absence of dissension and conflict; degree to which all members function as a unit
f) goal consensus -- degree to which group goal is unitary, and explicit to all members
g) standards -- perceived importance of organizational goals and performance standards
h) conflict -- emphasis on working through rather than avoiding conflicts
i) identity -- feeling of belonging to the organization and work group
j) achievement emphasis -- the desire on the part of the organization to do a good job and contribute to the performance.

5. Reward Orientation
a) motivational conditions
b) reward-performance relationship
c) general satisfaction
d) hedonic tone -- amount of pleasure afforded by membership
e) motivational conditions -- presence and nature of organizational factors eliciting effort
f) reward -- level and perceived fairness of positive job outcomes
g) reward/performance relationship -- reflects the degree to which the granting of additional rewards such as promotions and salary increases

are based on performance and merit rather than other considerations such as seniority, favoritism, etc.

6. Openness vs. Defensiveness
   a) communications flow -- freedom of flow of task relevant information within and between groups
   b) openness vs. defensiveness -- degree to which people try to cover their mistakes and look good rather than communicate freely and cooperate
   c) security vs. risk -- reflects the degree to which pressures in the organization lead to feelings of insecurity and risk
   d) support for creativity, experimentation

7. Participation vs. Decision Centralization
   a) disengagement -- group merely going through the motions; low involvement
   b) decision making practices -- decision making characterized by delegation and participation vs. centralization
   c) lower level influence -- amount of influence possessed by workers and first level supervisors
   d) decision centralization -- the extent to which decision making is reserved for top management

8. Educational Climate: The measures most frequently used for studying educational environments are Stern's College Characteristics Index, Pace's College and Univeristy Environment Scales, Aston and Holland's Environmental Assessment Technique. Examples of dimensions assessed by these instruments follow. They are generally concerned with assessing the climate for students as evaluated by students. Similar dimensions can, however, be evaluated by non-students (e.g., faculty, administration).

   a) aspiration level -- expectation that students will set high goals
   b) intellectual climate -- devotion to scholarship in humanities, arts, and social sciences
   c) student dignity -- degree of student autonomy and self-determination
   d) academic climate -- emphasis on academic excellence in humanities and physical sciences
   e) academic achievement -- press for high student achievement
   f) self-expression -- opportunity to develop leadership ability and self-assurance

g) group life -- incidence of mutually supportive group activities
h) academic organization -- emphasis on organization and structure in the environment
i) social form -- press for "proper" social behavior
j) party climate -- party atmosphere
k) vocational climate -- press for practical and conservative activities
l) scholarship -- perceived environmental press for academic achievement; selectivity of the institution; importance of getting acceptable grades
m) awareness -- perceived press for self-expression; artistic orientation; intellectual press
n) community -- perceived press for social activities; affiliation with faculty and other students
o) propriety -- press for social conformity; constraint; deference to tradition
p) practicality -- emphasis on vocationalism; applied orientation

IV. Environmental Adaptation: The criteria which describe this dimension generally fall into two categories. One set reflects on an organization's "ability to adapt" to changing conditions; the other on how well it has done so.

1. Productivity -- is usually defined as the quantity of volume of the major product of service that the organization provides and is measured by organizational records of some sort.

2. Efficiency
   a) Production
      i) technical
      ii) price
      iii) preference
   b) Exchange

Efficiency is generally thought of in terms of a ratio that reflects some aspect of unit performance to the costs incurred for that performance. Economists, however, talk about at least three different aspects or interpretations of efficiency: 1) technical efficiency, which refers to how resources are used in the production process; 2) price (or allocative) efficiency refers to how resources are allocated given their prices; and 3) preference (or value) efficiency, which refers to the relationship between the amount of resources used and the mix of outputs. These three aspects of efficiency taken together can be referred to as

production efficiency. This is to be distinguished from exchange efficiency, which refers to the delivery of products and services to customers.

3. bargaining position -- ability of the organization to exploit its environment in the acquisition of scarce and valued resources.

4. capacity to test reality -- ability to search out, accurately perceive, and interpret the real properties of the environment.

5. flexibility/adaptabiltiy -- ability of the organization to change in response to environmental changes.

6. growth -- growth can be defined as an increase in such things as manpower, plant facilities, sales, profits, assets, and market share. It implies a comparison of the organization's present state with its past state.

7. stability -- maintenance of structure, function, and resources through time, and periods of stress

8. client satisfaction

9. control over environment

10. security from external threats

11. responsiveness to environmental conditions

12. technology -- including curriculum and instruction

13. support services

14. resources (acquisition, adequacy, number, quality, type)

15. readiness -- the usual definition of this variable is in terms an overall judgment concerning the probability that the organization could successfully perform some specified task if asked to do so.

is based assumes that an organization is unlikely to be effective if it is not functioning well in all four domains.

The results of the comparison between the IPS and EF are reported in Table 10. The data indicate that the IPS is "weakest" in its assessment of educational outcomes and the educational climate. This is not surprising in view of the fact that in order to assess these dimensions one must generally gather student-level data.

Summary

Review of the previous set of tables indicates numerous areas in which the IPS overlaps similar institutional self-study instruments. The IPS also appears to assess several areas not addressed by the IFI, IGI, or NAS. These areas include perceptions of 1) competition, 2) enrollment and revenue conditions, 3) resource allocation, and 4) institutional functioning--specifically, investor confidence, reallocation priorities, and slack resources.

On the other hand, the data in the preceding tables indicate several areas that are not assessed by the IPS, but that may be important to institutional self-study. At the most general level, these areas or topics fall into six categories:

(1) The assessment of educational outcomes. This type of assessment generally entails some form of student evaluation.

Table 10

Comparison of the Institutional Performance Survey
With the
Effectiveness Framework

| Effectiveness Framework | IPS | |
|---|---|---|
| I. Goal Achievement | | |
| 1. Outcomes[1] | | |
| a. Knowledge, Technology, and Art Forms | | N |
| b. Human characteristics | Y | |
| c. Economic | | N |
| d. Resource and Service Provision | | N |
| e. Other Maintenance and Change | | |
| i. Aesthetic-Cultural Activities | Y | |
| ii.Organizational Format, Actvity, Operation | Y | |
| 2. Profit | | N |
| II. Internal Processes | | |
| 1. Planning & Goal Setting | Y | |
| 2. Staffing | | N |
| 3. Controlling | | N |
| 4. Organizing | Y | |
| 5. Interpersonal Relations | Y | |
| 6. Budgeting | Y | |
| 7. Scheduling | | N |
| 8. Property Management | | N |
| 9. Procurement | | N |
| 10. Evaluation | Y | |
| 11. Information Management & Communication | Y | |
| III. Organizational Climate | | |
| 1. Autonomy | | N |
| 2. Structure | Y | |
| 3. Consideration & Support | Y | |
| 4. Synergy | Y | |
| 5. Reward Orientation | Y | |
| 6. Openness vs. Defensiveness | | N |
| 7. Participation vs. Decision Centralization | Y | |
| 8. Educational Climate[2] | | |

[1]The IPS has at least one or two questions pertaining to each of the major categories under the Outcomes classification. However, as indicated in Appendix X, the outcomes domain has more than 80 subcategories. The IPS pays very little attention to student-related outcomes.

[2]Educational Climate criteria are concerned with the climate for students. Whereas, the previous criteria are essentially assessed relative to faculty and staff. The IPS is not administered to students. Respondents are, however, asked for their perceptions on a few of the items from the sample shown here.

| | | |
|---|---|---|
| a. Aspiration Level | Y | |
| b. Intellectual Climate | | N |
| c. Student Dignity | | N |
| d. Academic Climate | Y | |
| e. Academic Achievement | | N |
| f. Self Expression | | N |
| g. Group Life | | N |
| h. Academic Organization | | N |
| i. Social Form | | N |
| j. Party Climate | | N |
| k. Vocational Climate | | N |
| l. Scholarship | Y | |
| m. Awareness | Y | |
| n. Community | Y | |
| o. Propriety | | N |
| p. Practicality | | N |
| IV. Environmental Adaptation | | |
| 1. Productivity | Y | |
| 2. Efficiency | | N |
| 3. Bargaining Position | Y | |
| 4. Capacity To Test Reality | | N |
| 5. Flexibility/Adaptability | Y | |
| 6. Growth | Y | |
| 7. Stability | Y | |
| 8. Client Satisfaction | Y | |
| 9. Control Over Environment | Y | |
| 10. Security From External Threats | | N |
| 11. Responsiveness to environmental conditions | Y | |
| 12. Technology | Y | |
| 13. Support Services | | N |
| 14. Resources | | |
| a. Acquisition | Y | |
| b. Adequacy | | N |
| c. Quality | Y | |
| d. Number | | N |
| 15. Readiness | | N |

(2) The assessment of educational climate. Again, this type of assessment generally entails some form of student evaluation.

(3) The assessment of relations between members of different groups--for example, between faculty and their department chair; or, between department chairs/deans and the president.

(4) The assessment of both current and desired conditions.

(5) The assessment of institutional public service and research goals.

(6) The assessment of productivity and efficiency.

## Face Validity

As previously noted, the face validity of a test is not concerned with what a test necessarily measures, but what it appears to measure. Face validity is essential because without it, a test is unlikely to be purchased, employed, or given serious consideration by respondents. Mosier (1967) describes three meanings that have been attributed to the term: 1) validity by definition, 2) validity by assumption, and 3) validity by appearance.

A test is considered to be valid by definition "if the sample of items appear to the subject-matter expert to represent adequately the total universe of appropriate questions" (Mosier, 1967, p. 208). As such, it is very similar to content validity. However, by definition this form of validity generally requires evaluations by outside subject-matter experts (that is, experts other than the test-developer).

Validity by assumption means "that a test is assumed to be valid for the prediction of an external criterion if the items which compose it 'appear on their face' to bear a common-sense relationship to the objective of the test" (Mosier, 1967, p. 208). This form of validity generally entails no statistical assessment.

The "appearance of validity" criterion entails the notion that a test must not only have pragmatic or statistical validity, but that it should "appear practical, pertinent, and related to the purpose of the test as well" (Mosier, 1967, p. 208). Mosier argues that without this form of validity, a test is neither

likely to be selected for use, nor find acceptance for its results. In other words, he argues, the nature of a test must be such that it has a "high degree of consumer acceptance."

Validity By Definition

The IPS appears to fall short on this criterion--it was not reviewed by anyone outside of NCHEMS. On the other hand, as previously noted in the discussion of the instrument's content validity, the appropriate domain of institutional self-study is neither empirically defined, nor agreed upon. This makes it quite difficult to find subject-matter experts to review the instrument.

Validity By Assumption

This form of validity requires that the items of the instrument bear a "common-sense" relationship to the objective of the test. We have assumed that the objective of the IPS is to facilitate institutional self-study. This suggests that if:

(1) the constructs or dimensions measured by the IPS "appear on their face" to be necessary and sufficient to perform an institutional self-study; and,

(2) the items of the IPS "appear on their face" to
    (a) measure their respective constructs; and
    (b) adequately sample their respective construct domains--

then, the test meets the validity by assumption criterion.

As previously noted, lack of knowledge obviates evaluating whether the constructs measured by the IPS are necessary and sufficient to perform an institutional self-study (item 1 above). And, lack of knowledge and resources also obviate evaluating whether specific constructs are being adequately sampled (item 2b above). However, data are available that reflect on the extent to which items measure their respective constructs (item 2a above). The utility of this data rests on the assumption that an item measures its respective construct if respondents are interpreting it as intended.

The data were collected as part of a case study project currently in progress at NCHEMS. Some 50 faculty and administrators at five institutions were questioned regarding their responses to specific items on the questionnaire. The objective and focus of the interviews was to determine the extent to which responses were based on conditions and events that were intended to influence ratings. Respondents' comments regarding ambiguities or difficulties with questions were viewed as negatively reflecting on the "validity by assumption" criterion.

Samples of respondents' comments to questions in Sections 1, 4, 6, 7, and 8, are included in Appendix 3. The respondents' comments generally suggest that most of the questions were interpreted as intended. However, several problems appear to attend both the language and construction of the instrument. Most of these are sufficiently pervasive that they can be discussed in summary form rather than on an item-by-item basis. Similarly,

the nature of the comments pertaining to Sections 2, 3, and 5, are also amenable to discussion in summary form. We shall begin with observations about Sections 2, 3, and 5, since they are more limited in scope.

Briefly, with respect to Section 2 (Institutional Enrollments), respondents reported two difficulties. First, several pointed out that full-time equivalent enrollments derived from many sources--e.g., entering freshmen, transfer students, part-time students, continuing-education students, and the like. This lead many to be uncertain as to which sources the response should be based on. Second, respondents felt that several of the questions on declining enrollments did not make sense if enrollment decline seemed unlikely in the coming years.

The comments pertaining to Section 3 (Institutional Revenues) closely parallel those of Section 2. First, respondents remarked that "when" they saw or heard revenue figures they were seldom reported in inflation-adjusted terms. Second, they again noted that several of the questions on revenue decline did not make sense if revenue decline seemed unlikely in the coming years.

The criticisms or problems associated with Section 5 (Type of Institution) were generally of two types. First, respondents reported that the point assignment format was confusing. In addition, they reported difficulty in differentiating between options within a question. A second and related problem concerned the descriptions associated with specific labels. For example, respondents commented that the instrument's definition of a

"personal place" (question 1A) did not match their definition of a personal place.

One of the most frequently raised criticisms or problems with the IPS concerned the notion that responses to questions should be based on "overall" institutional conditions. Many of the people interviewed said they felt reasonably knowledgeable about what was happening in their department or school, but had little if any sense about overall institutional conditions. While this may be a very telling piece of information, it appears to have generated both animosity towards the instrument and spurious data. That is, several respondents remarked that since they didn't know about "overall" conditions in the institution, they simply based their responses on conditions in their particular department; whereas others in the same department reported that their ratings were based on conditions in the institution generally.

A lesser but related criticism followed from the use of the words "institution, school, and college" in the IPS to mean the same thing. Respondents reported confusion about the intended focus of questions. The nature of this problem becomes clearer when one realizes that faculty may reside, for example, in the School of Law, School of Management, or the School of Engineering. Similarly, one also encounters entities such as the College of Letters & Science, or the College of Fine Arts.

The most frequently cited criticism of the instrument concerned its failure to have a "Don't Know" response category. Failure to include this category may have seriously biased average estimates of group perceptions (i.e., mean scores). That is,

respondents frequently reported that they assigned a "Neither" response when they felt they did not have enough information to make an informed decision. Failure to include this category also generated a good deal of animosity when respondents felt they were being asked questions they believed inappropriate given their role in the institution. In particular, many line staff were irritated at being asked questions about student development, faculty-student relations, faculty satisfaction, and the like.

The third set of criticisms concerns the use of the terms "increasing" and "decreasing" in questions concerning aspects of institutional competition, morale, student pool, enrollments, innovation, conflict, etc. The primary criticism of questions which incorporated this language was that they failed to assess current conditions. In addition, respondents said they didn't know how to respond when things had pretty much been status quo. An often cited example of the problem concerned the question that asked whether morale was "increasing." Respondents were uncertain as to how they should respond if it had been continuously high or low.

The fourth set of criticisms follow from the use of descriptors which many respondents felt were ambiguous or used unfamiliar jargon. These include expressions such as "units in this institution"--what was the instrument referring to? "Major decisions are very centralized"--what constituted a major decision? "Top administrators"--who was the instrument referring to? "Patterns of resource allocation"--drew a total blank. "Institution-environment activities"--what was this?

Appearance of Validity

The appearance of validity criterion is primarily concerned with the extent to which an instrument appears practical, pertinent, and related to its intended uses. Judgment may be based on the extent to which consumers believe the instrument meets their information needs, and respondents feel that it is a worthwhile investment of their time and the institution's money. The IPS's primary consumer is the top administrative team and persons delegated by them to carry out the study. A second and overlapping set of consumers involves those charged with acting on the results of the study.

Comments included with respondents' questionnaires and those solicited during interviews yield mixed perceptions regarding the quality of the instrument. A sample of these comments are reported in Appendix 4. However, the primary issue raised by respondents with respect to the utility of the instrument was not concerned with its properties, but with what was to be done with the results of the endeavor.

The mirror image of this perception was reflected in the opinions held by the primary intended consumers of the IPS--the top administrative team, and the president in particular. Their opinions regarding the utility of the IPS seemed primarily a function of their administrative style, specifically whether or not they cared about what their constituencies or respondents said--irrespective of whether it was good or bad. As with

respondents, the critical factor was not so much the nature or quality of the IPS, but whether they had any use for such data.

Conclusion

Our conclusions about the face validity of the IPS are heavily influenced by the previous discussion on the "appearance of validity" criterion. That is, clearly there are problems with the language and construction of many of the questions in the instrument. However, the factor that appears to largely determine respondents' perceptions of the instrument is their expectations regarding if-and-how the results will be used to influence existing conditions.

## Construct Validation

Construct validation is concerned with developing evidence that a test measures a certain variable defined by a theory (Cronbach, 1970). This form of validation is ordinarily studied when we have no definitive criterion of the attributes or qualities with which we are concerned, and instead must use indirect measures. The construct validity of an instrument cannot be directly assessed. Rather, one must employ different types of assessment procedures and data--e.g., analyses of group differences, item-analyses, inter-item and scale correlations, change over occasions, internal test structure, factor analyses, test taking process--that may be regarded as suitable evidence for both the existence of the construct and the instrument's ability to measure it.

Assessing construct validity is never simple. Assessing the construct validity of the IPS is especially difficult because it purports to measure many constructs. These include, for example, resource allocation, culture, strategy, and effectiveness. Furthermore, each section of the IPS includes questions that are intended to measure constructs within each of the above noted categories. For example, Section 8 (Institutional Effectiveness) yields scores on nine different scales: student educational satisfaction, student academic development, student career development, student personal development, faculty and administrator employment satisfaction, professional development and quality of the faculty, system openness and community

interaction, ability to acquire resources, and organizational health.

Assessment of an instrument's construct validity requires many forms of psychometric assessment and data. The assessment that follows is certainly not complete. Nonetheless, it provides a wide range of information on the question at hand. The analyses are based on data collected as a part of the national research study for which the IPS was orginally developed. The orginal version of the IPS--An Assessment of the Performance of Colleges and Universities--was employed in the study. A description of the study sample follows.

Sample

The focus of Organizational Studies' research during 1983-84 was on four-year institutions. Hence, the first criterion for inclusion in the study was status as a four-year institution. Institutions were subsequently selected on the basis of four characteristics: enrollment size (200 to 20,000 students), institutional control (public versus private), the presence or absence of graduate programs and enrollment change.

The fourth criterion, enrollment change, described the institutions' enrollment trend between 1978-79 and 1981-82. Institutions were separated into three enrollment change groups: growing, stable, and declining. These categories reflected whether full-time equivalent enrollments had grown, remained stable, or declined during the specified period. This calculation was based on the Higher Education General Information Survey

(HEGIS) enrollment data. Institutions which experienced declining enrollments were overrepresented in the sample to ensure that the decline subsample would be large enough for meaningful analyses.

717 institutions were invited to participate in the study. 334 institutions agreed to participate, received, and returned questionnaires. Table 11 details the participant institution characteristics according to the four selection characteristics.

The number of respondents per institution ranged from one to nineteen. Ninety-three percent of the institutions had seven or more respondents. Of the 3,406 total respondents there were 1,321 administrators (39%), 1,158 faculty (34%) and 927 trustees (27%). The average was 4.0 administrators, 3.5 faculty, and 2.8 trustees per institution. The overall average was 10.2 respondents per institution. Nineteen percent of the respondents were women. 49% of the respondents have held their current position for seven or more years and 72% have been affiliated with their respective institution for six years or longer.

The form of the questions in the original instrument varied. The first seven sections contained questions with five-point scales. Possible responses ranged from strongly disagree (1), to strongly agree (5). Section 8, which was extracted from Cameron's (1978) effectiveness questionnaire, contained questions with seven-point scales. These questions were subsequently transformed to five-point scales to maintain consistency with similar types of questions in other sections.

Table 11
Number of Institutions in Study Sample
by Selection Criteria

| Graduate Program(s)? | #FTE Students | Enrollment Change | Public | Private |
|---|---|---|---|---|
| Yes | 200-2,500 | Growing | 2 | 9 |
| | | Stable | 4 | 6 |
| | | Declining | 8 | 7 |
| | 2,501-10,000 | Growing | 24 | 16 |
| | | Stable | 19 | 14 |
| | | Declining | 8 | 10 |
| | 10,001-20,000 | Growing | 10 | 3 |
| | | Stable | 11 | 4 |
| | | Declining | 5 | 1 |
| No | 200-2,500 | Growing | 10 | 51 |
| | | Stable | 6 | 53 |
| | | Declining | 5 | 20 |
| | 2,501-10,000 | Growing | 8 | 7 |
| | | Stable | 5 | 6 |
| | | Declining | 2 | 0 |
| | | | 127 | 207 = 334 |

## Results

### Item Analysis

An examination of the items' response rate was made to determine whether participants failed to respond to any particular items. A high non-response rate would indicate that an item is not effectively worded (e.g., it is unclear, intimidating) or that it is not applicable to the respondent or the institution. Low response rate items should not be considered valid items and ought to be excluded from further analyses. Table 12 reports the response distribution and the number of non-responses for each questionnaire item.

Eighty-eight percent of the items had a 98% or better response rate and there appeared to be no pattern to the non-responses. Twelve percent (13 items) had a 3-4% non-response rate. Nine of those items were located in Section 8 and asked respondents to assign a 1-7 rating to each question. In the revised questionnaire (the IPS), all questions in Section 8 have been reset to a 5-point scale.

The other four items with a 3% non-response rate necessitated knowledge of the presence or absence of enrollment and revenue decline (Section 2 and 3). Follow-up interviews with participants indicated that a "Don't Know" response should be added to most items in a future revised questionnaire.

The high response rate and variability of responses suggests that 1) respondents understood the questions, and 2) that the items can discriminate between institutions that actually differ on the dimensions being assessed--that is, essentially none of the

Table 12
Distribution of Responses and
Means and Standard Deviations
for each Item (n=3,406)

| Section | Item | Distribution in %* SD | D | N | A | SA | #of Non-responses | Mean** | Std.Dev |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 7 | 35 | 12 | 42 | 4 | 39 | 3.0 | 1.10 |
| | 2 | 2 | 27 | 8 | 50 | 12 | 38 | 3.4 | 1.10 |
| | 3 | 1 | 19 | 24 | 52 | 5 | 38 | 3.4 | .88 |
| | 4 | 3 | 51 | 18 | 25 | 3 | 43 | 2.7 | .96 |
| | 5 | 1 | 17 | 11 | 56 | 15 | 34 | 3.7 | .97 |
| | 6 | 1 | 5 | 3 | 50 | 40 | 41 | 4.2 | .82 |
| | 7 | 17 | 47 | 9 | 24 | 4 | 41 | 2.5 | 1.14 |
| | 8 | 1 | 13 | 7 | 46 | 32 | 28 | 3.9 | 1.02 |

| Section | Item | Distribution in %* Yes | No | #of Non-responses |
|---|---|---|---|---|
| 2 | 1 | 57 | 43 | 110 |
| | 2A | 28 | 72 | |
| | 2B | 40 | 60 | |
| | 2C | 59 | 41 | |
| | 2D | 74 | 26 | |

| | | Distribution in %* SD | D | N | A | SA | #of Non-responses | Mean** | Std.Dev |
|---|---|---|---|---|---|---|---|---|---|
| | 3 | 4 | 37 | 14 | 41 | 4 | 24 | 3.0 | 1.04 |
| | 4 | 20 | 40 | 7 | 26 | 7 | 16 | 2.6 | 1.25 |
| | 5 | 5 | 26 | 13 | 52 | 5 | 20 | 3.3 | 1.04 |
| | 6 | 14 | 52 | 10 | 20 | 3 | 116 | 2.4 | 1.05 |

| Section | Item | Distribution in %* Yes | No | #of Non-responses |
|---|---|---|---|---|
| 3 | 1 | 47 | 53 | 132 |
| | 2A | 37 | 63 | |
| | 2B | 54 | 46 | |
| | 2C | 75 | 25 | |
| | 2D | 79 | 21 | |

*excludes non-responses
**1=SD, 2=D, 3=N, 4=A, 5=SA
SD = strongly disagree
D = disagree
N = neither
A = agree
SA = strongly agree

| Section | Item | Distribution in %* SD | D | N | A | SA | #of Non-responses | Mean** | Std.Dev |
|---|---|---|---|---|---|---|---|---|---|
| 3 | 3 | 3 | 28 | 11 | 52 | 5 | 25 | 3.3 | 1.02 |
| | 4 | 10 | 38 | 10 | 32 | 10 | 22 | 2.9 | 1.21 |
| | 5 | 9 | 35 | 11 | 43 | 3 | 21 | 3.0 | 1.11 |
| | 6 | 20 | 56 | 9 | 14 | 1 | 87 | 2.2 | .96 |

| Section | Item | Distribution in %* SD | D | N | A | SA | #of Non-responses | Mean** | Std.Dev |
|---|---|---|---|---|---|---|---|---|---|
| 4 | 1 | 4 | 28 | 9 | 49 | 9 | 59 | 3.3 | 1.11 |
| | 2 | 3 | 21 | 10 | 60 | 6 | 38 | 3.4 | .98 |
| | 3 | 4 | 31 | 15 | 35 | 15 | 41 | 3.2 | 1.17 |
| | 4 | 2 | 9 | 8 | 59 | 23 | 32 | 3.9 | .90 |
| | 5 | 1 | 6 | 7 | 68 | 19 | 29 | 4.0 | .73 |
| | 6 | 3 | 18 | 11 | 56 | 11 | 37 | 3.5 | 1.02 |
| | 7 | 1 | 8 | 17 | 64 | 10 | 45 | 3.7 | .80 |
| | 8 | 4 | 38 | 12 | 40 | 5 | 57 | 3.0 | 1.07 |
| | 9 | 3 | 22 | 10 | 48 | 16 | 40 | 3.5 | 1.10 |
| | 10 | 19 | 45 | 9 | 18 | 8 | 32 | 2.5 | 1.22 |
| | 11 | 2 | 16 | 14 | 59 | 9 | 41 | 3.6 | .93 |
| | 12 | 10 | 48 | 19 | 21 | 3 | 36 | 2.6 | 1.01 |
| | 13 | 4 | 41 | 17 | 30 | 7 | 36 | 2.9 | 1.08 |
| | 14 | 14 | 55 | 12 | 15 | 4 | 34 | 2.4 | 1.04 |
| | 15 | 8 | 24 | 25 | 37 | 6 | 52 | 3.1 | 1.08 |
| | 16 | 8 | 48 | 11 | 27 | 7 | 39 | 2.8 | 1.13 |
| | 17 | 3 | 36 | 23 | 33 | 5 | 42 | 3.0 | .99 |
| | 18 | 6 | 18 | 17 | 48 | 11 | 37 | 3.4 | 1.08 |
| | 19 | 5 | 16 | 16 | 57 | 6 | 50 | 3.4 | .98 |
| | 20 | 9 | 44 | 19 | 23 | 5 | 45 | 2.7 | 1.08 |
| | 21 | 5 | 42 | 18 | 30 | 5 | 45 | 2.9 | 1.05 |
| | 22 | 12 | 33 | 15 | 31 | 9 | 36 | 2.9 | 1.21 |

| Section | Item | Distribution in %* SD | D | N | A | SA | #of Non-responses | Mean** | Std.Dev |
|---|---|---|---|---|---|---|---|---|---|
| 6 | 1 | 2 | 20 | 13 | 58 | 8 | 19 | 3.5 | .97 |
| | 2 | 3 | 31 | 22 | 39 | 4 | 23 | 3.1 | .99 |
| | 3 | 1 | 12 | 13 | 64 | 10 | 25 | 3.7 | .85 |
| | 4 | 7 | 53 | 20 | 18 | 1 | 32 | 2.5 | .92 |
| | 5 | 5 | 47 | 18 | 27 | 3 | 27 | 2.7 | 1.00 |

*excludes non-responses
**1=SD, 2=D, 3=N, 4=A, 5=SA
SD = strongly disagree
D = disagree
N = neither
A = agree
SA = strongly agree

| Section | Item | Distribution in %* SD | D | N | A | SA | #of Non-responses | Mean** | Std.Dev |
|---|---|---|---|---|---|---|---|---|---|
| 6 | 6 | 9 | 37 | 20 | 30 | 4 | 24 | 2.8 | 1.07 |
| | 7 | 2 | 10 | 10 | 64 | 14 | 22 | 3.8 | .88 |
| | 8 | 1 | 13 | 16 | 62 | 8 | 23 | 3.6 | .85 |
| | 9 | 2 | 21 | 22 | 52 | 3 | 42 | 3.3 | .90 |
| | 10 | 5 | 14 | 22 | 49 | 10 | 36 | 3.4 | 1.02 |
| | 11 | 6 | 36 | 24 | 30 | 4 | 27 | 2.9 | 1.03 |
| | 12 | 7 | 21 | 13 | 49 | 10 | 24 | 3.3 | 1.11 |
| | 13 | 2 | 9 | 8 | 62 | 19 | 27 | 3.9 | .90 |
| | 14 | 6 | 31 | 24 | 36 | 3 | 27 | 3.0 | 1.02 |

| | | Distribution in %* 1 | 2 | 3 | 4 | #of Non-responses |
|---|---|---|---|---|---|---|
| | 15 | 44 | 30 | 8 | 18 | 61 |
| | 16 | 12 | 8 | 29 | 51 | 51 |

| Section | Item | Distribution in %* SD | D | N | A | SA | #of Non-responses | Mean** | Std.Dev |
|---|---|---|---|---|---|---|---|---|---|
| 7 | 1 | 6 | 28 | 14 | 48 | 4 | 28 | 3.2 | 1.06 |
| | 2 | 16 | 51 | 8 | 18 | 7 | 15 | 2.5 | 1.15 |
| | 3 | 7 | 27 | 17 | 47 | 3 | 39 | 3.1 | 1.05 |
| | 4 | 5 | 15 | 13 | 62 | 6 | 24 | 3.5 | .98 |
| | 5 | 12 | 54 | 11 | 19 | 3 | 25 | 2.5 | 1.04 |
| | 6 | 14 | 42 | 15 | 23 | 6 | 27 | 2.6 | 1.14 |
| | 7 | 10 | 42 | 17 | 27 | 3 | 32 | 2.7 | 1.07 |
| | 8 | 15 | 46 | 16 | 18 | 5 | 36 | 2.5 | 1.11 |
| | 9 | 7 | 24 | 15 | 50 | 5 | 27 | 3.2 | 1.07 |
| | 10 | 3 | 12 | 13 | 60 | 11 | 33 | 3.6 | .95 |
| | 11 | 34 | 47 | 11 | 7 | 2 | 24 | 1.9 | .93 |
| | 12 | 7 | 30 | 21 | 38 | 3 | 28 | 3.0 | 1.05 |

| Section | Item | Distribution in %* SD | D | N | A | SA | #of Non-responses | Mean** | Std.Dev |
|---|---|---|---|---|---|---|---|---|---|
| 8 | 1 | 1 | 10 | 8 | 53 | 27 | 20 | 4.0 | .93 |
| | 2 | 1 | 21 | 21 | 50 | 6 | 27 | 3.4 | .93 |
| | 3 | 10 | 43 | 17 | 25 | 4 | 18 | 2.7 | 1.08 |
| | 4 | 19 | 49 | 16 | 14 | 2 | 19 | 2.3 | 1.00 |

*excludes non-responses
**1=SD, 2=D, 3=N, 4=A, 5=SA
SD = strongly disagree
D = disagree
N = neither
A = agree
SA = strongly agree

| Section | Item | Distribution in %* SD | D | N | A | SA | #of Non-responses | Mean** | Std.Dev |
|---|---|---|---|---|---|---|---|---|---|
| 8 | REV.5 | 2 | 8 | 11 | 58 | 21 | 21 | 3.9 | .89 |
| | REV.6 | 2 | 9 | 10 | 55 | 24 | 18 | 3.9 | .91 |
| | REV.7 | 1 | 7 | 9 | 57 | 25 | 20 | 4.0 | .88 |
| | 8 | 4 | 24 | 19 | 45 | 8 | 17 | 3.3 | 1.04 |
| | 9 | 3 | 25 | 23 | 43 | 6 | 25 | 3.2 | .99 |
| | 10 | 2 | 15 | 19 | 56 | 8 | 21 | 3.5 | .92 |
| | 11 | 4 | 25 | 21 | 43 | 7 | 24 | 3.2 | 1.04 |

| | | Distribution in %* 1 | 2 | 3 | 4 | 5 | #of Non-responses | Mean** | Std.Dev |
|---|---|---|---|---|---|---|---|---|---|
| *** | REV.12 | 0 | 7 | 29 | 60 | 4 | 64 | 3.6 | .68 |
| | REV.13 | 12 | 59 | 16 | 12 | 0 | 111 | 2.3 | .84 |

| | | Distribution in %* None | | | | All | #of Non-responses | Mean** | Std.Dev |
|---|---|---|---|---|---|---|---|---|---|
| | 14 | 0 | 56 | 20 | 23 | 1 | 78 | 2.7 | .86 |
| | 15 | 0 | 13 | 18 | 68 | 1 | 158 | 3.6 | .73 |
| | 16 | 0 | 7 | 11 | 77 | 5 | 64 | 3.8 | .64 |
| | 17 | 0 | 13 | 13 | 69 | 5 | 129 | 3.6 | .78 |
| | REV.18 | 0 | 11 | 11 | 77 | 1 | 70 | 3.7 | .68 |
| | REV.19 | 1 | 11 | 10 | 73 | 5 | 66 | 3.7 | .77 |
| | 20 | 0 | 12 | 14 | 74 | 11 | 60 | 3.6 | .70 |
| | 21 | 0 | 10 | 12 | 73 | 4 | 65 | 3.7 | .70 |
| | 22 | 0 | 67 | 16 | 17 | 0 | 81 | 2.5 | .77 |
| | 23 | 0 | 36 | 22 | 41 | 1 | 84 | 3.1 | .90 |
| | 24 | 0 | 46 | 20 | 33 | 0 | 72 | 2.9 | .89 |
| | 25 | 1 | 51 | 20 | 29 | 0 | 121 | 2.8 | .88 |

| | | Distribution in %* 1 | 2 | 3 | 4 | 5 | #of Non-responses | Mean** | Std.Dev |
|---|---|---|---|---|---|---|---|---|---|
| | REV.26 | 1 | 8 | 10 | 67 | 15 | 20 | 3.9 | .77 |
| | REV.27 | 2 | 11 | 12 | 68 | 8 | 20 | 3.7 | .83 |
| | REV.28 | 1 | 12 | 13 | 65 | 8 | 20 | 3.7 | .85 |
| | 29 | 4 | 23 | 14 | 54 | 6 | 22 | 3.3 | 1.01 |
| | 30 | 2 | 23 | 20 | 53 | 2 | 35 | 3.3 | .91 |
| | REV.31 | 2 | 17 | 15 | 62 | 4 | 27 | 3.5 | .87 |
| | REV.32 | 1 | 14 | 14 | 59 | 12 | 25 | 3.7 | .89 |

*excludes non-responses
**1=SD, 2=D, 3=N, 4=A, 5=SA
SD = strongly disagree
D = disagree
N = neither
A = agree
SA = strongly agree
***Items 12-32 were rescaled from an original scale of 1-7 to 1-5
(1=1) (2,3=2) (4=3) (5,6=4) (7=5)

REV. means that the scale of item was reversed
(i.e., 1=5,2=4,4=2,5=1)

items are ranked the same by all respondents. An item ranked the same by all respondents would provide no useful information.

Factor Structure and Internal Consistency

Five of the eight sections of the IPS (Sections 1, 2, 3, 4, and 6) include questions that purport to measure relatively unrelated dimensions or constructs. Two ways of assessing the extent to which this is true include examination of 1) the correlations between items in each section; and 2) the factors these correlations yield. Low correlations between items in the same section would be evidence that each item measures a relatively unique construct or dimension. Similarly, poorly defined factors (i.e., in terms of a "simple structure" criterion) would also be evidence that individual items are measuring relatively unique dimensions.[1]

The correlations between the items in Section 1 calculated at the respondent level are reported in Table 13A-Part 1. Correlations based on institution-level data (i.e., institutional mean scores) are reported in Table 13A-Part 2. The results of the factor analysis for the items in Section 1 are reported in Table 13B. Part 1 in Table 13B reports respondent level results; Part 2 reports institution-level results. The results of similar analyses for Sections 2, 3, 4, and 6, are reported in Tables 14A

[1]The simple structure criterion (Comrey, 1973, p. 108) suggests that a factor is poorly defined unless 1) most of the loadings on a given factor are small, that is, more or less randomly distributed about zero, with only a few of the loadings being of substantial size; 2) any given row of the factor matrix has nonzero entries in only a few columns; and 3) any two factors exhibit different patterns of high and low loadings.

Table 13 A

Part 1

Section 1

CORRELATION COEFFICIENTS.at the respondent level

| | S11 | S12 | S13 | S14 | S15 | S16 | S17 | S18 |
|---|---|---|---|---|---|---|---|---|
| S11 | 1.00000 | -.31898 | .24321 | -.12222 | .00617 | -.01401 | .05090 | -.03667 |
| S12 | -.31898 | 1.00000 | -.12361 | .17264 | .04729 | .05411 | -.05860 | .19541 |
| S13 | .24321 | -.12361 | 1.00000 | -.08351 | .08739 | .11607 | .01224 | -.00805 |
| S14 | -.12222 | .17264 | -.08351 | 1.00000 | .16553 | .10211 | -.04236 | .10526 |
| S15 | .00617 | .04729 | .08739 | .16553 | 1.00000 | .49586 | -.16994 | .10048 |
| S16 | -.01401 | .05411 | .11607 | .10211 | .49586 | 1.00000 | -.27838 | .11116 |
| S17 | .05090 | -.05860 | .01224 | -.04236 | -.16994 | -.27838 | 1.00000 | -.08281 |
| S18 | -.03667 | .19541 | -.00805 | .10526 | .10048 | .11116 | -.08281 | 1.00000 |

DETERMINANT OF CORRELATION MATRIX = .5034003( .50340033E+00)

Part 2

Section 1

CORRELATION COEFFICIENTS.at the institution level

| | S11 | S12 | S13 | S14 | S15 | S16 | S17 | S18 |
|---|---|---|---|---|---|---|---|---|
| S11 | 1.00000 | -.49090 | .24745 | -.10246 | .13621 | .10402 | .03375 | .00267 |
| S12 | -.49090 | 1.00000 | -.17950 | .09280 | -.16671 | -.14054 | -.04840 | .28551 |
| S13 | .24745 | -.17950 | 1.00000 | .00410 | .19527 | .13925 | .04390 | .03382 |
| S14 | -.10246 | .09280 | .00410 | 1.00000 | .28565 | .19386 | -.15052 | .05611 |
| S15 | .13621 | -.16671 | .19527 | .28565 | 1.00000 | .69258 | -.42831 | .05578 |
| S16 | .10402 | -.14054 | .13925 | .19386 | .69258 | 1.00000 | -.54419 | -.01714 |
| S17 | .03375 | -.04840 | .04390 | -.15052 | -.42831 | -.54419 | 1.00000 | .00060 |
| S18 | .00267 | .28551 | .03382 | .05611 | .05578 | -.01714 | .00060 | 1.00000 |

DETERMINANT OF CORRELATION MATRIX = .1808927( .18089271E+00)

Table 13 B

Part 1

Section 1
VARIMAX ROTATED FACTOR MATRIX
at the respondent level

| | FACTOR 1 | FACTOR 2 |
|---|---|---|
| S11 | -.01263 | .56575 |
| S12 | .11311 | -.55354 |
| S13 | .12724 | .34458 |
| S14 | .18578 | -.25700 |
| S15 | .62755 | .01776 |
| S16 | .78676 | .04357 |
| S17 | -.31576 | .06749 |
| S18 | .17747 | -.18203 |

TRANSFORMATION MATRIX

| | FACTOR 1 | FACTOR 2 |
|---|---|---|
| FACTOR 1 | .97692 | -.21363 |
| FACTOR 2 | .21363 | .97692 |

Part 2

Section 1
VARIMAX ROTATED FACTOR MATRIX
at the institution level

| | FACTOR 1 | FACTOR 2 | FACTOR 3 |
|---|---|---|---|
| S11 | -.03231 | .66446 | -.08969 |
| S12 | .00871 | -.64677 | .58861 |
| S13 | .07197 | .38829 | .08799 |
| S14 | .29775 | -.06639 | .10906 |
| S15 | .77435 | .28895 | .05858 |
| S16 | .85166 | .17515 | -.07950 |
| S17 | -.61287 | .08647 | .04744 |
| S18 | .02313 | .03531 | .51038 |

TRANSFORMATION MATRIX

| | FACTOR 1 | FACTOR 2 | FACTOR 3 |
|---|---|---|---|
| FACTOR 1 | .90747 | .40348 | -.11702 |
| FACTOR 2 | .40398 | -.76166 | .50662 |
| FACTOR 3 | -.11528 | .50702 | .85419 |

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through 17B, respectively. The results of these analyses strongly suggest that the items contained in each of the sections measure relatively unique constructs or dimensions.

The questions in Section 5 are concerned with assessing the type or types of culture that exist in an institution. The four questions in this section are concerned with general institutional culture, leadership, cohesion, and emphases. Each question listed four characteristics; each of these characteristics is indicative of one of four types of cultures. On each question respondents were asked to parcel 100 points among the four types of characteristics (cultures), as an indication of the extent to which each description was reflected in their institution. Throughout the four questions the following characteristics represented these cultures:

| Item | Culture | Characteristic |
|---|---|---|
| A | Clan | A clan is much like a family; it is highly personal and formal. Loyalty and tradition are bonding forces and morale is usually high. Clans are usually led by father or mother figures or by mentors. |
| B | Emergent System | An emergent system is dynamic and entrepreneurial it emphasizes innovation and new ideas. This kind of institution is strongly committed to development and progress, and its leader is usually an innovator or entreprenuer. |
| C | Hierarchy | A hierarchy is a formalized, tightly structured institution governed by formal rules and procedures. As archetypal bureaucracies, such institutions emphasize efficient, well-oiled processes. They value stability and permanence. Hierarchies are usually led by organizers and coordinators. |

Table 14 A

Part 1

Section 2

CORRELATION COEFFICIENTS at the respondent level

| | S23 | S24 | S25 | S26 |
|---|---|---|---|---|
| S23 | 1.00000 | -.01112 | .10731 | -.11428 |
| S24 | -.01112 | 1.00000 | -.19997 | -.20962 |
| S25 | .10731 | -.19997 | 1.00000 | .05815 |
| S26 | -.11428 | -.20962 | .05815 | 1.00000 |

DETERMINANT OF CORRELATION MATRIX = .8934407( .89344072E+00)



Part 2

Section 2

CORRELATION COEFFICIENTS at the institution level

| | S23 | S24 | S25 | S26 |
|---|---|---|---|---|
| S23 | 1.00000 | -.01923 | .09614 | -.20413 |
| S24 | -.01923 | 1.00000 | -.32011 | -.29544 |
| S25 | .09614 | -.32011 | 1.00000 | .06448 |
| S26 | -.20413 | -.29544 | .06448 | 1.00000 |

DETERMINANT OF CORRELATION MATRIX = .7722143( .77221429E+00)

Table 14 B

Part 1

Section 2

VARIMAX ROTATED FACTOR MATRIX

at the respondent level

| | FACTOR 1 | FACTOR 2 |
|---|---|---|
| S23 | .02720 | .38703 |
| S24 | -.54377 | .01139 |
| S25 | .37259 | .25349 |
| S26 | .37670 | -.32130 |

TRANSFORMATION MATRIX

| | FACTOR 1 | FACTOR 2 |
|---|---|---|
| FACTOR 1 | .99640 | -.08474 |
| FACTOR 2 | .08474 | .99640 |

Part 2

Section 2

VARIMAX ROTATED FACTOR MATRIX

at the institution level

| | FACTOR 1 | FACTOR 2 |
|---|---|---|
| S23 | .12298 | .39074 |
| S24 | -.70767 | .17669 |
| S25 | .47681 | .10033 |
| S26 | .26488 | -.60474 |

TRANSFORMATION MATRIX

| | FACTOR 1 | FACTOR 2 |
|---|---|---|
| FACTOR 1 | .88224 | -.47080 |
| FACTOR 2 | .47080 | .88224 |

Table 15 A

Part 1

Section 3

CORRELATION COEFFICIENTS..at the respondent level

| | S33 | S34 | S35 | S36 |
|---|---|---|---|---|
| S33 | 1.00000 | -.10437 | .11164 | -.00377 |
| S34 | -.10437 | 1.00000 | -.18715 | -.25244 |
| S35 | .11164 | -.18715 | 1.00000 | .17677 |
| S36 | -.00377 | -.25244 | .17677 | 1.00000 |

DETERMINANT OF CORRELATION MATRIX = .86750796 .86750793E+00)

Part 2

Section 3

CORRELATION COEFFICIENTS..at the institution level

| | S33 | S34 | S35 | S36 |
|---|---|---|---|---|
| S33 | 1.00000 | -.14561 | .15101 | -.02247 |
| S34 | -.14561 | 1.00000 | -.32431 | -.42854 |
| S35 | .15101 | -.32431 | 1.00000 | .25280 |
| S36 | -.02247 | -.42854 | .25280 | 1.00000 |

DETERMINANT OF CORRELATION MATRIX = .68507726 .68507719E+00)

Table 15 B

Part 1

Section 3

VARIMAX ROTATED FACTOR MATRIX

at the respondent level

| | FACTOR 1 | FACTOR 2 |
|---|---|---|
| S33 | .04496 | .44020 |
| S34 | -.45304 | -.18918 |
| S35 | .32560 | .21846 |
| S36 | .58358 | -.06598 |

TRANSFORMATION MATRIX

| | FACTOR 1 | FACTOR 2 |
|---|---|---|
| FACTOR 1 | .94947 | .31385 |
| FACTOR 2 | -.31385 | .94947 |

Part 2

Section 3

VARIMAX ROTATED FACTOR MATRIX

at the institution level

| | FACTOR 1 | FACTOR 2 |
|---|---|---|
| S33 | .04049 | .49086 |
| S34 | -.64886 | -.24211 |
| S35 | .40014 | .27286 |
| S36 | .69804 | -.10149 |

TRANSFORMATION MATRIX

| | FACTOR 1 | FACTOR 2 |
|---|---|---|
| FACTOR 1 | .96095 | .27671 |
| FACTOR 2 | -.27671 | .96095 |



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Table 16 A

Part 1

Section 4

CORRELATION COEFFICIENTS. at the respondent level

| | S401 | S402 | S403 | S404 | S405 | S406 | S407 | S408 | S409 | S410 |
|---|---|---|---|---|---|---|---|---|---|---|
| S401 | 1.00000 | .19668 | .00360 | -.03695 | -.07433 | -.11880 | -.06773 | .06619 | .09079 | .04631 |
| S402 | .19668 | 1.00000 | .05090 | .13237 | .12496 | .18699 | .11742 | -.29901 | .01567 | -.23608 |
| S403 | .00360 | .05090 | 1.00000 | .51421 | .30461 | .33608 | .21121 | -.10247 | -.03485 | -.12919 |
| S404 | -.03695 | .13237 | .51421 | 1.00000 | .52755 | .56372 | .34598 | -.24132 | -.04863 | -.26813 |
| S405 | -.07433 | .12496 | .30461 | .52755 | 1.00000 | .55215 | .34334 | -.22776 | -.10891 | -.29817 |
| S406 | -.11880 | .18699 | .33608 | .56372 | .55215 | 1.00000 | .42842 | -.35869 | -.10470 | -.35405 |
| S407 | -.06773 | .11742 | .21121 | .34598 | .34334 | .42842 | 1.00000 | -.27967 | -.10536 | -.30402 |
| S408 | .06619 | -.29901 | -.10247 | -.24132 | -.22776 | -.35869 | -.27967 | 1.00000 | .11097 | .36719 |
| S409 | .09079 | .01567 | -.03485 | -.04863 | -.10891 | -.10470 | -.10536 | .11097 | 1.00000 | .18485 |
| S410 | .04631 | -.23608 | -.12919 | -.26813 | -.29817 | -.35405 | -.30402 | .36719 | .18485 | 1.00000 |
| S411 | -.08852 | .10149 | .15649 | .26135 | .26783 | .29836 | .26575 | -.23645 | -.11004 | -.32152 |
| S412 | .02464 | -.03316 | -.04237 | -.08590 | -.07422 | -.16469 | -.09197 | .14463 | .03397 | .14459 |
| S413 | .09343 | -.08779 | -.11972 | -.21696 | -.23637 | -.35496 | -.23661 | .28755 | .11711 | .34522 |
| S414 | .06761 | -.09867 | -.03039 | -.14459 | -.19132 | -.22728 | -.20553 | .18777 | .12537 | .21116 |
| S415 | -.14625 | .11312 | .15308 | .26346 | .27265 | .35810 | .32501 | -.27689 | -.16913 | -.35360 |
| S416 | -.09085 | .03790 | .04887 | .03744 | .07686 | .08512 | .02149 | -.02967 | -.00365 | -.02897 |
| S417 | .14486 | -.03226 | -.07080 | -.14981 | -.17389 | -.25650 | -.15693 | .19923 | .05666 | .20892 |
| S418 | -.12660 | .19208 | .18332 | .34400 | .33124 | .42917 | .37180 | -.36830 | -.17770 | -.42441 |
| S419 | -.08193 | .19801 | .12946 | .24008 | .28965 | .34388 | .28749 | -.28350 | -.11174 | -.39401 |
| S420 | .14718 | -.15294 | -.13909 | -.27151 | -.29817 | -.38674 | -.31866 | .31427 | .16752 | .39834 |
| S421 | .11589 | -.02674 | -.03306 | -.16750 | -.16750 | -.23509 | -.22232 | .17039 | .13466 | .27353 |
| S422 | .03791 | .01493 | .05551 | .05505 | .06066 | .07919 | .05857 | .00659 | -.01462 | .00831 |

| | S411 | S412 | S413 | S414 | S415 | S416 | S417 | S418 | S419 | S420 |
|---|---|---|---|---|---|---|---|---|---|---|
| S401 | -.08852 | .02464 | .09343 | .06761 | -.14625 | -.09085 | .14486 | -.12660 | -.08193 | .14718 |
| S402 | .10149 | -.03316 | -.08779 | -.09867 | .11312 | .03790 | -.03226 | .19208 | .19801 | -.15294 |
| S403 | .15649 | -.04237 | -.11972 | -.03039 | .15308 | .04887 | -.07080 | .18332 | .12946 | -.13909 |
| S404 | .26135 | -.08590 | -.21696 | -.14459 | .26346 | .03744 | -.14981 | .34400 | .24008 | -.27151 |
| S405 | .26783 | -.07422 | -.23637 | -.19132 | .27265 | .07686 | -.17389 | .33124 | .28965 | -.29817 |
| S406 | .29836 | -.16469 | -.35496 | -.22728 | .35810 | .08512 | -.25650 | .42917 | .34388 | -.38674 |
| S407 | .26575 | -.09197 | -.23661 | -.20553 | .32501 | .02149 | -.15693 | .37180 | .28749 | -.31866 |
| S408 | -.23645 | .14463 | .28755 | .18777 | -.27689 | -.02967 | .19923 | -.36830 | -.28350 | .31427 |
| S409 | -.11004 | .03397 | .11711 | .12537 | -.16913 | -.00365 | .05666 | -.17770 | -.11174 | .16752 |
| S410 | -.32152 | .14459 | .34522 | .21116 | -.35360 | -.02897 | .20892 | -.42441 | -.39401 | .39834 |
| S411 | 1.00000 | -.06853 | -.26984 | -.09317 | .44732 | .06582 | -.15469 | .40996 | .34215 | -.37340 |
| S412 | -.06853 | 1.00000 | .30625 | .20446 | -.14361 | .02781 | .26835 | -.18913 | -.07317 | .24507 |
| S413 | -.26984 | .30625 | 1.00000 | .16896 | -.33999 | -.04673 | .29223 | -.35644 | -.26520 | .42226 |
| S414 | -.09317 | .20446 | .16896 | 1.00000 | -.17748 | .02557 | .16211 | -.22338 | -.16930 | .24672 |

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Table 16 A

Part 1
(continued)

| | $411 | $412 | $413 | $414 | $415 | $416 | $417 | $418 | $419 | $420 |
|---|---|---|---|---|---|---|---|---|---|---|
| $415 | .44732 | -.14361 | -.33999 | -.17748 | 1.00000 | .05028 | -.28746 | .55353 | .38073 | -.62210 |
| $416 | .06582 | .02781 | -.04673 | .02557 | .05028 | 1.00000 | -.07792 | .08502 | .08306 | -.05332 |
| $417 | -.15469 | .26835 | .29223 | .16211 | -.28746 | -.07792 | 1.00000 | -.28513 | -.21606 | .45502 |
| $418 | .40996 | -.18918 | -.35544 | -.22338 | .55353 | .08502 | -.28513 | 1.00000 | .47734 | -.56253 |
| $419 | .34215 | -.07317 | -.26520 | -.16930 | .38073 | .08306 | -.21606 | .47734 | 1.00000 | -.43959 |
| $420 | -.37340 | .24507 | .42226 | .24672 | -.62210 | -.05332 | .45502 | -.56253 | -.43959 | 1.00000 |
| $421 | -.22339 | .12508 | .20257 | .11317 | -.30489 | .11360 | .19670 | -.32505 | -.23629 | .30198 |
| $422 | .01316 | -.00995 | -.05082 | -.14382 | -.01372 | -.05533 | .01297 | .02457 | -.01756 | .00045 |

| | $421 | $422 |
|---|---|---|
| $401 | .11589 | .03791 |
| $402 | -.02674 | .01493 |
| $403 | -.08306 | .05551 |
| $404 | -.16750 | .05505 |
| $405 | -.16750 | .06066 |
| $406 | -.23509 | .07919 |
| $407 | -.22232 | .05857 |
| $408 | .17039 | .00659 |
| $409 | .13466 | -.01462 |
| $410 | .27353 | .00831 |
| $411 | -.22339 | .01316 |
| $412 | .12508 | -.00995 |
| $413 | .20257 | -.05082 |
| $414 | .11317 | -.14382 |
| $415 | -.30489 | -.01372 |
| $416 | .11360 | -.05533 |
| $417 | .19670 | .01297 |
| $418 | -.32505 | .02457 |
| $419 | -.23629 | -.01756 |
| $420 | .30198 | .00045 |
| $421 | 1.00000 | .03939 |
| $422 | .03939 | 1.00000 |

DETERMINANT OF CORRELATION MATRIX = .0044826( .44826241E-02)

Table 16 A

Section 4 Part 2

CORRELATION COEFFICIENTS. at the institution level

| | S401 | S402 | S403 | S404 | S405 | S406 | S407 | S408 | S409 | S410 |
|---|---|---|---|---|---|---|---|---|---|---|
| S401 | 1.00000 | .24691 | .09612 | .02289 | -.08024 | -.14485 | -.07440 | .08187 | .19177 | .11306 |
| S402 | .24691 | 1.00000 | .01583 | .10487 | .19425 | .13831 | .11793 | -.39246 | .00582 | -.15147 |
| S403 | .09612 | .01583 | 1.00000 | .75184 | .48876 | .57945 | .23918 | -.17434 | .05576 | -.08323 |
| S404 | .02289 | .10487 | .75184 | 1.00000 | .69811 | .75053 | .47740 | -.34044 | -.02521 | -.29038 |
| S405 | -.08024 | .19425 | .48876 | .69811 | 1.00000 | .69657 | .50442 | -.37616 | -.10580 | -.33102 |
| S406 | -.14485 | .13831 | .57945 | .75053 | .69657 | 1.00000 | .58565 | -.50509 | -.10650 | -.40185 |
| S407 | -.07440 | .11793 | .23918 | .47740 | .50442 | .58565 | 1.00000 | -.33858 | -.14889 | -.36982 |
| S408 | .08187 | -.39246 | -.17434 | -.34044 | -.37616 | -.50509 | -.33858 | 1.00000 | .02946 | .43373 |
| S409 | .19177 | .00582 | .05576 | -.02521 | -.10580 | -.10650 | -.14889 | .02946 | 1.00000 | .13130 |
| S410 | .11306 | -.15147 | -.08323 | -.29038 | -.33102 | -.40185 | -.36982 | .43373 | .13130 | 1.00000 |
| S411 | -.13592 | .02085 | .17773 | .25359 | .27010 | .30037 | .24460 | -.27275 | -.01910 | -.29126 |
| S412 | .04161 | -.04378 | -.17129 | -.26812 | -.25223 | -.36046 | -.30441 | .28762 | .06696 | .40151 |
| S413 | .19612 | .12060 | -.19006 | -.30948 | -.30770 | -.40909 | -.28702 | .34321 | .11092 | .45785 |
| S414 | .01832 | -.20693 | -.01551 | -.21549 | -.36715 | -.29374 | -.41153 | .23169 | .15293 | .32836 |
| S415 | -.21593 | .07770 | .16770 | .28533 | .27718 | .40336 | .33641 | -.32634 | -.12762 | -.35296 |
| S416 | -.23743 | .00521 | .01218 | -.00377 | .06787 | .04030 | -.20466 | -.05816 | .02348 | .20113 |
| S417 | .24719 | .00461 | -.17442 | -.28853 | -.28498 | -.43190 | -.29617 | .34301 | -.00410 | .32675 |
| S418 | -.22456 | .08675 | .21315 | .43156 | .40554 | .51999 | .46218 | -.48174 | -.21529 | -.45167 |
| S419 | -.20811 | .12099 | .15193 | .27982 | .37037 | .41886 | .36326 | -.35822 | -.11501 | -.38444 |
| S420 | .28990 | -.04130 | -.16087 | -.32199 | -.33080 | -.43049 | -.34057 | .37380 | .18517 | .40629 |
| S421 | .15551 | .07548 | -.11374 | -.24752 | -.12851 | -.28968 | -.28168 | .25900 | .09008 | .43191 |
| S422 | .10310 | .01655 | .10978 | .14600 | .13700 | .16032 | .13249 | .01203 | -.01991 | -.00167 |



| | S411 | S412 | S413 | S414 | S415 | S416 | S417 | S418 | S419 | S420 |
|---|---|---|---|---|---|---|---|---|---|---|
| S401 | -.13592 | .04161 | .19612 | .01832 | -.21593 | -.23743 | .24719 | -.22456 | -.20811 | .28990 |
| S402 | .02085 | -.04378 | .12060 | -.20693 | .07770 | .00521 | .00461 | .08675 | .12099 | -.04130 |
| S403 | .17773 | -.17129 | -.19006 | -.01551 | .16770 | .01218 | -.17442 | .21315 | .15193 | -.16087 |
| S404 | .25359 | -.26812 | -.30948 | -.21549 | .28533 | -.00377 | -.28853 | .43156 | .27982 | -.32199 |
| S405 | .27010 | -.25223 | -.30770 | -.36715 | .27718 | .06787 | -.28498 | .40554 | .37037 | -.33080 |
| S406 | .30037 | -.36046 | -.40909 | -.29374 | .40336 | .04030 | -.43190 | .51999 | .41886 | -.43049 |
| S407 | .24460 | -.30441 | -.28702 | -.41153 | .33641 | -.20466 | -.29617 | .46218 | .36326 | -.34057 |
| S408 | -.27275 | .28762 | .34321 | .23169 | -.32634 | -.05816 | .34301 | -.48174 | -.35822 | .37380 |
| S409 | -.01910 | .06696 | .11092 | .15293 | -.12762 | .02348 | -.00410 | -.21529 | -.11501 | .18517 |
| S410 | -.29126 | .40151 | .45785 | .32836 | -.35296 | .20113 | .32675 | -.45167 | -.38444 | .40629 |
| S411 | 1.00000 | -.19234 | -.36125 | -.00807 | .58496 | .08662 | -.29806 | .47113 | .36573 | -.46743 |
| S412 | -.19234 | 1.00000 | .52226 | .32394 | -.39953 | .10841 | .50879 | -.51341 | -.27663 | .56603 |
| S413 | -.36125 | .52226 | 1.00000 | .18987 | -.39625 | .00817 | .46661 | -.56353 | -.37721 | .57234 |
| S414 | -.00807 | .32394 | .18987 | 1.00000 | -.11707 | .07360 | .15447 | -.26490 | -.24269 | .22660 |

Table 16 A

Part 2
(Continued)

| | S411 | S412 | S413 | S414 | S415 | S416 | S417 | S418 | S419 | S420 |
|---|---|---|---|---|---|---|---|---|---|---|
| S415 | .58496 | -.39953 | -.39625 | -.11707 | 1.00000 | .04178 | -.48083 | .64799 | .43320 | -.75542 |
| S416 | .08662 | .10841 | .00817 | .07360 | .04178 | 1.00000 | .01022 | .06959 | .08085 | -.02218 |
| S417 | -.29806 | .50879 | .46661 | .15447 | -.48083 | .01022 | 1.00000 | -.49194 | -.34516 | .67358 |
| S418 | .47113 | -.51341 | -.56353 | -.26490 | .64799 | .06959 | -.49194 | 1.00000 | .60039 | -.72173 |
| S419 | .36573 | -.27663 | -.37721 | -.24269 | .43320 | .08085 | -.34516 | .60039 | 1.00000 | -.47778 |
| S420 | -.46743 | .56603 | .57234 | .22660 | -.75542 | -.02218 | .67358 | -.72173 | -.47778 | 1.00000 |
| S421 | -.33849 | .36280 | .34870 | .10901 | -.47518 | .30292 | .34640 | -.47981 | -.33287 | .48591 |
| S422 | -.01394 | .02351 | -.10197 | -.26185 | -.06571 | -.15312 | .02287 | .02366 | -.00898 | .01380 |

| | S421 | S422 |
|---|---|---|
| S401 | .15551 | .10310 |
| S402 | .07548 | .01655 |
| S403 | -.11374 | .10978 |
| S404 | -.24752 | .14600 |
| S405 | -.12851 | .13700 |
| S406 | -.28968 | .16032 |
| S407 | -.28168 | .13249 |
| S408 | .25900 | .01203 |
| S409 | .09008 | -.01991 |
| S410 | .43191 | -.00167 |
| S411 | -.33849 | -.01394 |
| S412 | .36280 | .02351 |
| S413 | .34870 | -.10197 |
| S414 | .10901 | -.26185 |
| S415 | -.47518 | -.06571 |
| S416 | .30292 | -.15312 |
| S417 | .34640 | .02287 |
| S418 | -.47981 | .02366 |
| S419 | -.33287 | -.00898 |
| S420 | .48591 | .01380 |
| S421 | 1.00000 | .06497 |
| S422 | .06497 | 1.00000 |

DETERMINANT OF CORRELATION MATRIX = .0000169( .16902610E-04)

Table 16 B

Part 1

Section 4

VARIMAX ROTATED FACTOR MATRIX

at the respondent level

| | FACTOR 1 | FACTOR 2 | FACTOR 3 | FACTOR 4 | FACTOR 5 | FACTOR 6 |
|---|---|---|---|---|---|---|
| S401 | -.16659 | .00258 | .07562 | .37387 | .06441 | -.13545 |
| S402 | .19598 | .05619 | -.02689 | .66886 | -.10864 | .10104 |
| S403 | .07974 | .58376 | -.02983 | .02716 | .03623 | -.00948 |
| S404 | .20425 | .81560 | -.07738 | .05409 | -.09257 | -.00725 |
| S405 | .29427 | .53828 | -.06089 | -.01124 | -.25166 | .11634 |
| S406 | .36605 | .56144 | -.19435 | .02554 | -.32690 | .14311 |
| S407 | .39811 | .31037 | -.06935 | .00841 | -.23301 | .00700 |
| S408 | -.39179 | -.11767 | .17030 | -.22887 | .25977 | -.10184 |
| S409 | -.24851 | .01035 | .01364 | .10913 | .14261 | .01316 |
| S410 | -.53416 | -.12838 | .14013 | -.15285 | .23679 | -.03697 |
| S411 | .53278 | .19421 | -.04771 | -.00250 | .04006 | .05284 |
| S412 | -.05789 | -.02225 | .54526 | -.01590 | .13251 | .07782 |
| S413 | -.35418 | -.13518 | .41346 | -.00483 | .14729 | -.04934 |
| S414 | -.19763 | -.05530 | .23000 | -.01115 | .33022 | .03849 |
| S415 | .69480 | .15872 | -.22806 | -.05441 | .13011 | .01473 |
| S416 | .02349 | .05856 | -.01774 | -.02469 | .07614 | .53084 |
| S417 | -.25594 | -.07571 | .50065 | .08111 | .00738 | -.11516 |
| S418 | .67950 | .20802 | -.21492 | .04492 | -.06314 | .07583 |
| S419 | .56466 | .13900 | -.08501 | .09593 | -.07400 | .13287 |
| S420 | -.65048 | -.13472 | .46423 | .00913 | -.06960 | -.06019 |
| S421 | -.41923 | -.08170 | .12623 | .09547 | .07726 | .18651 |
| S422 | -.03664 | .08052 | -.02652 | .01298 | -.15264 | -.07959 |

TRANSFORMATION MATRIX

| | FACTOR 1 | FACTOR 2 | FACTOR 3 | FACTOR 4 | FACTOR 5 | FACTOR 6 |
|---|---|---|---|---|---|---|
| FACTOR 1 | .77337 | .46203 | -.36416 | .06460 | -.20529 | .09748 |
| FACTOR 2 | -.37256 | .81902 | .37373 | .15310 | -.16340 | .02438 |
| FACTOR 3 | .10914 | -.24573 | .19067 | .92801 | -.16886 | .04050 |
| FACTOR 4 | .44752 | -.01488 | .71631 | -.13130 | .45703 | .24554 |
| FACTOR 5 | -.22047 | .03416 | -.29456 | .09733 | .22508 | .89629 |
| FACTOR 6 | -.04812 | .23231 | -.30248 | .29065 | .80194 | -.35305 |

Table 16 B

Part 2

Section 4

VARIMAX ROTATED FACTOR MATRIX

at the institution level

| | FACTOR 1 | FACTOR 2 | FACTOR 3 | FACTOR 4 | FACTOR 5 | FACTOR 6 |
|---|---|---|---|---|---|---|
| S401 | .31810 | .08554 | .02922 | .20276 | .29993 | -.30358 |
| S402 | -.03238 | .04500 | .03805 | -.[illegible]26 | .88675 | .00684 |
| S403 | -.06757 | .82400 | -.08303 | .18226 | -.01863 | -.03495 |
| S404 | -.20960 | .89003 | -.11400 | -.09421 | .05939 | -.04631 |
| S405 | -.21174 | .66258 | -.09469 | -.36441 | .15326 | .10714 |
| S406 | -.34839 | .71991 | -.18570 | -.30504 | .09684 | .05333 |
| S407 | -.30537 | .38736 | -.10141 | -.47633 | .09171 | -.17304 |
| S408 | .38966 | -.23615 | .18859 | .19461 | -.39419 | -.06484 |
| S409 | .14718 | .04021 | -.01423 | .29750 | .07189 | -.02944 |
| S410 | .42514 | -.12555 | .25934 | .33224 | -.15220 | .19574 |
| S411 | -.61972 | .16502 | -.03298 | .03589 | .01737 | .05234 |
| S412 | .28038 | -.12110 | .74202 | .12101 | -.06075 | .11254 |
| S413 | .43337 | -.18592 | .47710 | .18634 | .11843 | -.00730 |
| S414 | -.00839 | -.12554 | .26092 | .61404 | -.19965 | .05259 |
| S415 | -.78138 | .11751 | -.20493 | -.00835 | .04702 | .03165 |
| S416 | -.01679 | .03304 | .03211 | .10187 | .01719 | .86636 |
| S417 | .46267 | -.16264 | .50242 | .05265 | .02237 | -.04330 |
| S418 | -.70122 | .22256 | -.32051 | -.26140 | .06541 | .07722 |
| S419 | -.53191 | .17043 | -.12298 | -.27800 | .09738 | .10380 |
| S420 | .72170 | -.10598 | .48999 | .11390 | .00876 | -.06679 |
| S421 | .58730 | -.06312 | .18219 | .07355 | .08948 | .34213 |
| S422 | .14519 | .17824 | -.03022 | -.22651 | -.00172 | -.11930 |

TRANSFORMATION MATRIX

| | FACTOR 1 | FACTOR 2 | FACTOR 3 | FACTOR 4 | FACTOR 5 | FACTOR 6 |
|---|---|---|---|---|---|---|
| FACTOR 1 | -.69518 | .48408 | -.41296 | -.31526 | .11087 | -.01345 |
| FACTOR 2 | .49146 | .77261 | .23971 | -.10366 | .29846 | -.06527 |
| FACTOR 3 | -.13761 | .32500 | .15494 | .41395 | -.44332 | .69538 |
| FACTOR 4 | -.07846 | -.23949 | .13856 | -.14911 | .72023 | .61345 |
| FACTOR 5 | -.30024 | .07484 | .11440 | .78530 | .41026 | -.32581 |
| FACTOR 6 | -.39994 | -.01304 | .84600 | -.28210 | -.12270 | -.17184 |

Table 17 A

Part 1

## Section 6

**CORRELATION COEFFICIENTS.** at the respondent level

| | S601 | S602 | S603 | S604 | S605 | S606 | S607 | S608 | S609 | S610 |
|---|---|---|---|---|---|---|---|---|---|---|
| S601 | 1.00000 | .36604 | .14951 | -.10581 | -.09854 | .14844 | .11912 | .07224 | .30896 | .10890 |
| S602 | .36604 | 1.00000 | .20373 | -.08752 | -.08463 | .16975 | .12477 | .05881 | .26121 | .14194 |
| S603 | .14951 | .20373 | 1.00000 | -.12156 | -.07586 | .11309 | .15925 | .03673 | .14388 | .16083 |
| S604 | -.10581 | -.08752 | -.12156 | 1.00000 | .27090 | -.26330 | -.16598 | -.11733 | -.21253 | -.19060 |
| S605 | -.09854 | -.08463 | -.07586 | .27090 | 1.00000 | -.63226 | -.21637 | -.16755 | -.34018 | -.23250 |
| S606 | .14844 | .16975 | .11309 | -.26330 | -.63226 | 1.00000 | .29628 | .21415 | .45854 | .27870 |
| S607 | .11912 | .12477 | .15925 | -.16598 | -.21637 | .29628 | 1.00000 | .29467 | .28731 | .34500 |
| S608 | .07224 | .05881 | .03673 | -.11733 | -.16755 | .21415 | .29467 | 1.00000 | .16644 | .30531 |
| S609 | .30896 | .26121 | .14388 | -.21253 | -.34018 | .45854 | .28731 | .16644 | 1.00000 | .28588 |
| S610 | .10890 | .14194 | .16083 | -.19060 | -.23250 | .27870 | .34500 | .30531 | .28588 | 1.00000 |
| S611 | .06342 | .08205 | .10309 | -.01091 | -.06400 | .11304 | .15659 | .09355 | .13987 | .15501 |
| S612 | .13939 | .11269 | .11051 | -.19554 | -.21371 | .27441 | .30166 | .29172 | .28724 | .38053 |
| S613 | .06687 | .02741 | .07724 | -.17115 | -.15896 | .20592 | .22366 | .24232 | .16408 | .23852 |
| S614 | .10084 | .08802 | .04710 | -.15556 | -.22250 | .27147 | .25000 | .28518 | .25461 | .38361 |



| | S611 | S612 | S613 | S614 |
|---|---|---|---|---|
| S601 | .06342 | .13939 | .06687 | .10084 |
| S602 | .08205 | .11269 | .02741 | .08802 |
| S603 | .10309 | .11051 | .07724 | .04710 |
| S604 | -.01091 | -.19554 | -.17115 | -.15556 |
| S605 | -.06400 | -.21371 | -.15896 | -.22250 |
| S606 | .11304 | .27441 | .20592 | .27147 |
| S607 | .15659 | .30166 | .22366 | .25000 |
| S608 | .09355 | .29172 | .24232 | .28518 |
| S609 | .13987 | .28724 | .16408 | .25461 |
| S610 | .15501 | .38053 | .23852 | .38361 |
| S611 | 1.00000 | .15234 | .05732 | .06766 |
| S612 | .15234 | 1.00000 | .36429 | .41674 |
| S613 | .05732 | .36429 | 1.00000 | .33953 |
| S614 | .06766 | .41674 | .33953 | 1.00000 |

DETERMINANT OF CORRELATION MATRIX = .0773174( .77317432E-01)

Table 17 A

Section 6 Part 2

CORRELATION COEFFICIENTS at the institution level

| | S601 | S602 | S603 | S604 | S605 | S606 | S607 | S608 | S609 | S610 |
|---|---|---|---|---|---|---|---|---|---|---|
| S601 | 1.00000 | .47688 | .19935 | -.05277 | -.03154 | .12933 | .14539 | .08158 | .44038 | .11086 |
| S602 | .47688 | 1.00000 | .32862 | -.14304 | -.12668 | .22582 | .14366 | -.02042 | .36524 | .06747 |
| S603 | .19935 | .32862 | 1.00000 | -.19431 | -.14273 | .20776 | .28031 | .05942 | .22527 | .23131 |
| S604 | -.05277 | -.14304 | -.19431 | 1.00000 | .40089 | -.41616 | -.27517 | -.12120 | -.37573 | -.12294 |
| S605 | -.03154 | -.12668 | -.14273 | .40089 | 1.00000 | -.81855 | -.33083 | -.14515 | -.50306 | -.22579 |
| S606 | .12933 | .22582 | .20776 | -.41616 | -.81855 | 1.00000 | .40599 | .18912 | .64688 | .21561 |
| S607 | .14539 | .14366 | .28031 | -.27517 | -.33083 | .40599 | 1.00000 | .31403 | .40988 | .36254 |
| S608 | .08158 | -.02042 | .05942 | -.12120 | -.14515 | .18912 | .31403 | 1.00000 | .15882 | .36290 |
| S609 | .44038 | .36524 | .22527 | -.37573 | -.50306 | .64688 | .40988 | .15882 | 1.00000 | .23746 |
| S610 | .11086 | .06747 | .23131 | -.12294 | -.22579 | .21561 | .36254 | .36290 | .23746 | 1.00000 |
| S611 | .17589 | .21316 | .27019 | -.05590 | -.21879 | .29159 | .35103 | .15438 | .21960 | .22781 |
| S612 | .21070 | .09462 | .22233 | -.10591 | -.19134 | .22510 | .40647 | .37544 | .32504 | .38037 |
| S613 | .07427 | -.04491 | .07537 | -.14207 | -.18054 | .25291 | .23246 | .41057 | .20224 | .21659 |
| S614 | .06242 | .00672 | .13597 | -.12597 | -.19391 | .23905 | .28827 | .37194 | .18510 | .40612 |

-70-

| | S611 | S612 | S613 | S614 |
|---|---|---|---|---|
| S601 | .17589 | .21070 | .07427 | .06242 |
| S602 | .21316 | .09462 | -.04491 | .00672 |
| S603 | .27019 | .22233 | .07537 | .13597 |
| S604 | -.05590 | -.10591 | -.14207 | -.12597 |
| S605 | -.21879 | -.19134 | -.18054 | -.19391 |
| S606 | .29159 | .22510 | .25291 | .23905 |
| S607 | .35103 | .40647 | .23246 | .28827 |
| S608 | .15438 | .37544 | .41057 | .37194 |
| S609 | .21960 | .32504 | .20224 | .18510 |
| S610 | .22781 | .38037 | .21659 | .40612 |
| S611 | 1.00000 | .25021 | .07517 | .09293 |
| S612 | .25021 | 1.00000 | .46178 | .48820 |
| S613 | .07517 | .46178 | 1.00000 | .45281 |
| S614 | .09293 | .48820 | .45281 | 1.00000 |

DETERMINANT OF CORRELATION MATRIX = .0084629( .84628742E-02)

Table 17 B

Section 6 Part 1

VARIMAX ROTATED FACTOR MATRIX
at the respondent level

| | FACTOR 1 | FACTOR 2 | FACTOR 3 | FACTOR 4 |
|---|---|---|---|---|
| S601 | .07927 | .07831 | .61960 | .03420 |
| S602 | .01744 | .07328 | .56840 | .15099 |
| S603 | .03879 | .05409 | .24058 | .25267 |
| S604 | -.19994 | -.27960 | -.10938 | -.07738 |
| S605 | -.15309 | -.74540 | -.03201 | -.06635 |
| S606 | .19374 | .78799 | .12780 | .16193 |
| S607 | .32199 | .19027 | .08768 | .44773 |
| S608 | .40954 | .11559 | .00045 | .23400 |
| S609 | .22635 | .40041 | .37759 | .20484 |
| S610 | .46412 | .16531 | .09924 | .37194 |
| S611 | .08018 | .04131 | .07682 | .28305 |
| S612 | .60554 | .14274 | .12328 | .16620 |
| S613 | .51649 | .11242 | .02170 | .05119 |
| S614 | .62652 | .16119 | .07384 | .05704 |

TRANSFORMATION MATRIX

| | FACTOR 1 | FACTOR 2 | FACTOR 3 | FACTOR 4 |
|---|---|---|---|---|
| FACTOR 1 | .63850 | .58647 | .32807 | .37514 |
| FACTOR 2 | .67212 | -.46452 | -.57083 | .08143 |
| FACTOR 3 | .11254 | -.66264 | .70432 | .22842 |
| FACTOR 4 | -.35763 | -.03445 | -.26543 | .89469 |

Part 2

Section 6

VARIMAX ROTATED FACTOR MATRIX
at the institution level

| | FACTOR 1 | FACTOR 2 | FACTOR 3 | FACTOR 4 |
|---|---|---|---|---|
| S601 | .02252 | .10216 | .77086 | .09764 |
| S602 | .13594 | -.10212 | .58854 | .28213 |
| S603 | .10648 | .07875 | .22616 | .46334 |
| S604 | -.44835 | -.09629 | -.07352 | -.11397 |
| S605 | -.82957 | -.11843 | .03116 | -.14779 |
| S606 | .91631 | .15836 | .10177 | .16973 |
| S607 | .30404 | .35601 | .07772 | .47260 |
| S608 | .08203 | .57253 | -.01855 | .13031 |
| S609 | .59095 | .20175 | .48465 | .15452 |
| S610 | .10821 | .45141 | .01273 | .37496 |
| S611 | .15080 | .10930 | .12441 | .48298 |
| S612 | .08208 | .66324 | .16046 | .25313 |
| S613 | .15213 | .66294 | .02676 | -.07543 |
| S614 | .11078 | .66066 | -.00909 | .11031 |

TRANSFORMATION MATRIX

| | FACTOR 1 | FACTOR 2 | FACTOR 3 | FACTOR 4 |
|---|---|---|---|---|
| FACTOR 1 | .64618 | .56242 | .30938 | .41282 |
| FACTOR 2 | -.46986 | .78571 | -.40087 | -.03456 |
| FACTOR 3 | -.58724 | .04620 | .75374 | .29137 |
| FACTOR 4 | -.12976 | -.25339 | -.41889 | .86226 |

D Market — A market culture implies that the institution is production-oriented and values the accomplishment of tasks. Goals drive the institution's activities, and there is a sense of competition and achievement among members. The leader is usually a hard-driving producer who places high priority on results.

Some institutions have a single dominant culture while others have a more heterogeneous culture. This section of the questionnaire asesses both the types of cultures which exist in the institution, and the extent to which a given culture predominates. If the questions in this section are well constructed, the correlations between questions assessing the same type of culture should be more highly correlated than questions measuring different cultures. In other words, respondents who rated a particular item (e.g., leadership) as being highly clan-like, are also expected to rate other items (e.g., cohesion, institutional emphasis) as being highly clan-like.

Table 18 displays the inter-question correlation matrices for each culture type at both the respondent and institution level, and the coefficient alphas calculated at the institution level. The data in this table indicate that the correlations within culture types were generally higher than correlations between culture types. For example, the correlation between question 1-item A and question 2-item A is .18 at the respondent level. This correlation is higher than the correlations between question 1-item A and question 2-item B, question 1-item A and question 2-item C, and question 1-item A and question 2-item D.

Table 18
Section 5: Correlation Matrices for Each Culture Type
Respondent Level (n=3,002)
Institution Level in parentheses (n=334)

Item A: Clan Culture (alpha= .82)

| Q# | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1 | 1.00 | | | |
| 2 | .18 (.30) | 1.00 | | |
| 3 | .59 (.76) | .19 (.31) | 1.00 | |
| 4 | .55 (.78) | .18 (.38) | .47 (.66) | 1.00 |

Item B: Emergent System (alpha= .83)

| Q# | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1 | 1.00 | | | |
| 2 | .37 (.48) | 1.00 | | |
| 3 | .52 (.76) | .36 (.55) | 1.00 | |
| 4 | .32 (.50) | .32 (.57) | .41 (.60) | 1.00 |

Item C: Hierarchy Culture (alpha= .67)

| Q# | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1 | 1.00 | | | |
| 2 | .04[a] (.07[b]) | 1.00 | | |
| 3 | .60 (.76) | .09 (.13[c]) | 1.00 | |
| 4 | .36 (.41) | .13 (.38) | .37 (.42) | 1.00 |

Item D: Market Culture (alpha= .78)

| Q# | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1 | 1.00 | | | |
| 2 | .29 (.40) | 1.00 | | |
| 3 | .43 (.62) | .22 (.34) | 1.00 | |
| 4 | .37 (.57) | .27 (.44) | .39 (.53) | 1.00 |

Question 1= Institutional Characteristics
2= Institutional Leadership
3= Institutional Cohesion
4= Institutional Emphases

[a]The correlation between Q1-item C and Q2-item C was .04 but the correlation between Q1-item C and Q2-item D was .15.

[b]The correlation between Q1-item C and Q2-item C was .07 but the correlation between Q1-item C and Q2-item D was .25.

[c]The correlation between Q2-item C and Q3-item C was .13 but the correlation between Q2-item C and Q3-item A was .20.

The data in Table 18 indicate that there were only three exceptions to this trend--all of which occured in the Hierarchy Culture matrix. The institutional characteristics hierarchy item had a higher correlation with the institutional leader market item than with the institutional leader hierarchy item.

Another means of examining the construct validity of the items in Section 5 is through their correlations with other items in the instrument. However, a correlation matrix of the sixteen items in Section 5 with other questions would result in an unwieldy matrix of numbers. To obviate this problem four new variables were created. Each of these variables was the average number of points allocated per culture item across questions. For example, the new average clan variable was Q1-item A + Q2-item A + Q3-item A + Q4-item A divided by four. Each of these four new variables contained 0 to 100 points. This strategy seemed reasonable in view of 1) the relatively high degree of internal consistency as reflected in estimated coefficient alphas, and 2) the parsimony such a strategy provides.

The four summary variables were correlated with selected questions in the other sections of the questionnaire at both the respondent and institution level. The results are presented in Table 19. The magnitude and pattern of correlations reported in this table conform to our expectations of how various aspects of institutional performance should be related to particular cultural emphases.

For example, the data in Table 19 indicate the higher the score on the Clan variable, the higher the score on questions

Table 19
Section 5: Correlations of Summary Culture Variables with Selected Questionnaire Items

Respondent Level (n=3,002)
Institution Level in parentheses (n=333)

| Section & Question | Clan | Emergent | Hierarchy | Market |
|---|---|---|---|---|
| Section 4 | | | | |
| 1 Specialization | -.12 (-.20) | -.05 ( .01) | .14 ( .23) | .06 ( .06) |
| 2 Formalization | -.05 (-.14) | -.05 (-.22) | .16 ( .42) | -.06 ( .02) |
| 6 Mission | .28 ( .46) | .11 (-.01) | -.17 (-.36) | -.12 (-.38) |
| 7 Invtr.Confidence | .17 ( .29) | .14 ( .05) | -.20 (-.26) | -.17 (-.26) |
| 8 Struct.Coupling | -.11 (-.18) | -.09 ( .08) | .11 ( .07) | .11 ( .14) |
| 9 Centralization | -.11 (-.19) | -.10 ( .03) | .11 ( .00) | .14 ( .28) |
| 10 Planning | -.05 (-.09) | -.19 (-.11) | .17 ( .18) | .09 ( .08) |
| 11 Innovation | .08 ( .05) | .32 ( .36) | -.29 (-.39) | -.12 (-.08) |
| 12 Scapegoating | -.06 (-.20) | -.06 (-.11) | .07 ( .24) | .07 ( .21) |
| 13 Resist.to Change | -.07 (-.12) | -.28 (-.41) | .27 ( .52) | .08 ( .11) |
| 14 Admin.Turnover | -.10 (-.11) | -.01 ( .11) | .02 (-.08) | .13 ( .15) |
| 15 Morale | .13 ( .15) | .25 ( .23) | -.25 (-.32) | -.16 (-.18) |
| 16 Slack Resources | -.00 (-.02) | .04 ( .07) | -.04 (-.05) | .01 (-.00) |
| 17 Interest Groups | -.15 (-.33) | -.08 (-.05) | .16 ( .33) | .12 ( .24) |
| 18 Adm.Credibility | .17 ( .21) | .23 ( .22) | -.25 (-.36) | -.20 (-.22) |
| 19 Reall.Priorities | .07 ( .06) | .21 ( .21) | -.20 (-.27) | -.10 (-.05) |
| 20 Conflict | -.16 (-.21) | -.20 (-.18) | .23 ( .34) | .19 ( .21) |
| 21 Locus of Control | -.10 (-.19) | -.18 (-.20) | .21 ( .35) | .09 ( .16) |
| 22 Int.Mobility | .05 ( .06) | -.01 ( .04) | .00 (-.03) | -.06 (-.13) |
| Section 6 | | | | |
| 4 Conservatism | .00 ( .20) | -.21 (-.37) | .16 ( .22) | .04 (-.16) |
| 7*Conservatism | -.06 ( .06) | -.23 (-.38) | .22 ( .35) | .07 (-.03) |
| 5 Moderate Change | .01 ( .21) | -.38 (-.61) | .29 ( .41) | .05 (-.08) |
| 8 Moderate Change | .08 ( .13) | .15 ( .11) | -.17 (-.25) | -.08 (-.08) |
| 6 Innovation | -.06 (-.26) | .48 ( .73) | -.34 (-.46) | -.05 ( .08) |
| 9 Innovation | -.01 (-.14) | .36 ( .56) | -.28 (-.41) | -.06 ( .03) |
| Section 8 | | | | |
| 26*St/Fac Relations | .40 ( .63) | .03 (-.14) | .21 (-.37) | .29 (-.50) |
| 27*Equity | .19 ( .34) | .16 ( .04) | -.19 (-.30) | -.22 (-.30) |
| 28*Org.Health | .14 ( .19) | .18 ( .07) | -.18 (-.19) | -.18 (-.19) |
| 29 Trust | .22 ( .33) | .17 ( .13) | -.21 (-.33) | -.24 (-.35) |
| 30 No Conflict | .22 ( .29) | .15 ( .15) | -.22 (-.34) | -.23 (-.29) |
| 31*Rewards | .10 ( .09) | .18 ( .09) | -.17 (-.15) | -.15 (-.08) |
| 32*Feedback | .13 ( .16) | .17 ( .06) | -.18 (-.17) | -.15 (-.17) |

*Scale was reversed

Table 19
(continued)

Section 5: Correlations of Summary Culture Variables with Selected Questionnaire Items

Respondent Level (n=3,002)
Institution Level in parentheses (n=333)

| Section & Question | Clan | Emergent | Hierarchy | Market |
|---|---|---|---|---|
| Section 7 | | | | |
| 1 Bureaucratic | .05 ( .05) | -.01 (-.18) | .01 ( .20) | -.07 (-.08) |
| 7 Bureaucratic | .14 (-.18) | -.23 (-.31) | .29 ( .45) | .12 ( .18) |
| 2 Autocratic | -.15 (-.17) | -.11 ( .00) | .12 ( .04) | .18 ( .25) |
| 8 Autocratic | -.16 (-.23) | -.13 ( .04) | .14 ( .03) | .21 ( .31) |
| 3 Collegial | .17 ( .26) | .14 ( .01) | -.16 (-.13) | -.21 (-.31) |
| 9 Collegial | .17 ( .27) | .19 ( .09) | -.22 (-.24) | -.19 (-.30) |
| 4 Rational | .11 ( .12) | .17 ( .06) | -.16 (-.12) | -.16 (-.15) |
| 10 Rational | .14 ( .25) | .21 ( .14) | -.23 (-.31) | -.16 (-.24) |
| 5 Org.Anarchy | -.06 (-.02) | -.12 (-.00) | .11 (-.03) | .09 ( .07) |
| 11 Org.Anarchy | -.06 (-.10) | -.15 (-.08) | .13 ( .15) | .10 ( .09) |
| 6 Political | -.17 (-.26) | -.20 (-.07) | .24 ( .27) | .18 ( .22) |
| 12 Political | -.04 (-.12) | .06 ( .16) | -.05 (-.08) | .04 ( .10) |
| Section 8 | | | | |
| 1 St.Ed.Satis | .15 ( .18) | .11 ( .04) | -.16 (-.16) | -.15 (-.18) |
| 2 St.Acad.Dev | .13 ( .14) | .15 ( .13) | -.20 (-.20) | -.12 (-.18) |
| 3 St.Career Dev | -.01 (-.11) | .11 ( .14) | -.10 (-.12) | .02 ( .15) |
| 4 St.Personal Dev | .34 ( .56) | .00 (-.22) | -.19 (-.19) | -.26 (-.49) |
| 5 Fac/Admin.Satis | .21 ( .28) | .14 ( .01) | -.20 (-.17) | -.22 (-.30) |
| 6 Dev.of Faculty | -.02 (-.14) | .19 ( .25) | -.14 (-.10) | -.01 ( .05) |
| 7 System Openness | .12 ( .16) | .24 ( .20) | -.25 (-.28) | -.13 (-.19) |
| 8 Ability Acq.Res | .01 (-.09) | .22 ( .23) | -.18 (-.14) | -.04 ( .03) |
| 9 Org.Health | .27 ( .42) | .19 ( .07) | -.27 (-.35) | -.28 (-.40) |

pertaining to mission, student-faculty relations, organizational health, and trust. Conversely, the higher the Clan score, the lower the score on questions pertaining to autocratic decision style, the role of interest groups, and perceptions of conflict.

Similarly, the higher the Hierarchy score, the higher the score on questions pertaining to specialization, formalization, bureacratic decision style, and conservatism. Conversely, the higher the Hierarchy score, the lower the score on questions pertaining to innovation, trust, conflict, and collegiality. These results lend support to the construct validity of the questions contained in Section 5.

A related means of assessing the construct validity of the items included in Section 5 entails examination of the relationship between the culture scores. This was done by calculating the correlations between the items included in each of the four questions. The results of this analysis are reported in Table 20.

The results are somewhat ambiguous. Clan items are always negatively correlated with each of the other culture items. The hierarchy and market items in the general institutional culture question have a small positive correlation. Otherwise, the emergent system, hierarchy and market items are negatively correlated or uncorrelated in all questions. This suggests that when respondents allocated points to the clan items, they allocated a large proportion of points. However, when respondents allocated points to the other culture items, the points tended to

Table 20
Section 5: Correlation Matrices for each Question
Respondent Level (n=3,002)

Question 1: General Institutional Culture

| | Clan | Emergent | Hierarchy | Market |
|---|---|---|---|---|
| Clan | 1.00 | | | |
| Emergent | -.19 | 1.00 | | |
| Hierarchy | -.61 | -.40 | 1.00 | |
| Market | -.66 | -.17 | .15 | 1.0 |

Question 2: Institutional Leadership

| | Clan | Emergent | Hierarchy | Market |
|---|---|---|---|---|
| Clan | 1.00 | | | |
| Emergent | -.27 | 1.00 | | |
| Hierarchy | -.43 | -.44 | 1.00 | |
| Market | -.31 | -.16 | -.35 | 1.0 |

Question 3: Institutional Cohesion

| | Clan | Emergent | Hierarchy | Market |
|---|---|---|---|---|
| Clan | 1.00 | | | |
| Emergent | -.40 | 1.00 | | |
| Hierarchy | -.47 | -.28 | 1.00 | |
| Market | -.60 | -.06 | -.06 | 1.0 |

Question 4: Institutional Emphases

| | Clan | Emergent | Hierarchy | Market |
|---|---|---|---|---|
| Clan | 1.00 | | | |
| Emergent | -.38 | 1.00 | | |
| Hierarchy | -.36 | -.44 | 1.00 | |
| Market | -.50 | .02 | -.29 | 1.0 |

be more spread out. Table 21 displays the means and standard deviations for each of the culture items for each question.

The questions in Section 7 are concerned with institutional decision processes. The section is comprised of six pairs of items dealing with the type of decision process used at the institution for allocation of resources. One item from each pair explicitly asks whether resource allocation is decided in a certain manner (e.g., bureaucratically). The other item paraphrases the question (e.g., this institution has a standard set of procedures).

If the items in Section 7 are well constructed then we should find that 1) each member of a pair correlates more highly with its match than with any other item in this section; and 2) that each member of a pair correlates negatively with its theoretical antithesis--e.g., autocratic vs. collegial decisionmaking. The correlations between all items in this section were calculated at the respondent and institution level. The results of these analyses are reported in Table 22A and 22B, respectively. The correlations between theoretically matched items were extracted from this table and are summarized in Table 23.

The results reported in Table 22A and 22B indicate that items in four of the six pairs correlate more highly with each other than with any other item. The items measuring bureacratic and political decisionmaking correlate more highly with other items than with their matching item. As might be expected, the items found in the four highly intercorrelating pairs show strong negative correlations with their antithetical counterparts. For

Table 21

Section 5: Means and Standard Deviations
Respondent Level (n=3,203 to 3,248)

| Question | Clan Mean | Clan SD | Emergent Mean | Emergent SD | Hierarchy Mean | Hierarchy SD | Market Mean | Market SD |
|---|---|---|---|---|---|---|---|---|
| 1 General Culture | 50.8 | 26.7 | 18.5 | 16.1 | 17.1 | 20.3 | 13.6 | 17.4 |
| 2 Leadership | 17.1 | 24.3 | 21.3 | 22.1 | 44.6 | 27.6 | 17.0 | 20.7 |
| 3 Cohesion | 46.2 | 27.0 | 16.7 | 17.4 | 16.5 | 18.9 | 20.7 | 18.4 |
| 4 Emphases | 33.9 | 23.6 | 22.8 | 18.3 | 25.1 | 21.8 | 18.2 | 17.9 |

Table 22 A

Section 7

CORRELATION COEFFICIENTS. at the respondent level

| | S71 | S72 | S73 | S74 | S75 | S706 | S707 | S708 | S709 | S710 |
|---|---|---|---|---|---|---|---|---|---|---|
| S71 | 1.00000 | -.31031 | .35813 | .46630 | -.47550 | -.34360 | -.11227 | -.35299 | .33812 | .34436 |
| S72 | -.31031 | 1.00000 | -.59016 | -.49027 | .36216 | .41369 | .22390 | .60589 | -.52074 | -.40266 |
| S73 | .35813 | -.59016 | 1.00000 | .54436 | -.38331 | -.44792 | -.28647 | -.56521 | .64858 | .46739 |
| S74 | .46630 | -.49027 | .54436 | 1.00000 | -.57393 | -.56881 | -.27682 | -.57629 | .56404 | .66633 |
| S75 | -.47550 | .36216 | -.38331 | -.57393 | 1.00000 | .44826 | .25637 | .41808 | -.38512 | -.41361 |
| S706 | -.34360 | .41369 | -.44792 | -.56881 | .44826 | 1.00000 | .42861 | .53296 | -.48452 | -.57598 |
| S707 | -.11227 | .22390 | -.28647 | -.27682 | .25637 | .42861 | 1.00000 | .28715 | -.33403 | -.29068 |
| S708 | -.35299 | .60589 | -.56521 | -.57629 | .41808 | .53296 | .28715 | 1.00000 | -.59458 | -.51321 |
| S709 | .33812 | -.52074 | .64858 | .56404 | -.38512 | -.48452 | -.33403 | -.59458 | 1.00000 | .51780 |
| S710 | .34436 | -.40266 | .46739 | .66633 | -.41361 | -.57598 | -.29068 | -.51321 | .51780 | 1.00000 |
| S711 | -.30545 | .34748 | -.34303 | -.52079 | .45744 | .46545 | .27539 | .43001 | -.36064 | -.51338 |
| S712 | -.00166 | -.11520 | .12263 | .05687 | -.00270 | .10916 | -.00425 | -.09056 | .13735 | .00410 |

| | S711 | S712 |
|---|---|---|
| S71 | -.30545 | -.00166 |
| S72 | .34748 | -.11520 |
| S73 | -.34303 | .12263 |
| S74 | -.52079 | .05687 |
| S75 | .45744 | -.00270 |
| S706 | .46545 | .10916 |
| S707 | .27539 | -.00425 |
| S708 | .43001 | -.09056 |
| S709 | -.36064 | .13735 |
| S710 | -.51338 | .00410 |
| S711 | 1.00000 | .06086 |
| S712 | .06086 | 1.00000 |

DETERMINANT OF CORRELATION MATRIX = .0060958( .60958387E-02)

Table 22 B

Section 7

CORRELATION COEFFICIENTS.at the institution level

| | S701 | S702 | S703 | S704 | S705 | S706 | S707 | S708 | S709 | S710 |
|---|---|---|---|---|---|---|---|---|---|---|
| S701 | 1.00000 | -.38297 | .41959 | .48010 | -.58069 | -.27405 | -.05773 | -.47070 | .38693 | .23322 |
| S702 | -.38297 | 1.00000 | -.72197 | -.44601 | .38169 | .30839 | .20263 | .70930 | -.62787 | -.32860 |
| S703 | .41959 | -.72197 | 1.00000 | .53624 | -.43436 | -.43147 | -.34432 | -.74234 | .75177 | .44479 |
| S704 | .48010 | -.44601 | .53624 | 1.00000 | -.64912 | -.65663 | -.40401 | -.60609 | .52922 | .70870 |
| S705 | -.58069 | .38169 | -.43436 | -.64912 | 1.00000 | .48819 | .37125 | .51061 | -.43736 | -.42324 |
| S706 | -.27405 | .30839 | -.43147 | -.65663 | .48819 | 1.00000 | .54368 | .48799 | -.46864 | -.68244 |
| S707 | -.05773 | .20263 | -.34432 | -.40401 | .37125 | .54368 | 1.00000 | .32468 | -.40084 | -.44541 |
| S708 | -.47070 | .70930 | -.74234 | -.60609 | .51061 | .48799 | .32468 | 1.00000 | -.73115 | -.47057 |
| S709 | .38693 | -.62787 | .75177 | .52922 | -.43736 | -.46864 | -.40084 | -.73115 | 1.00000 | .47818 |
| S710 | .23322 | -.32860 | .44479 | .70870 | -.42324 | -.68244 | -.44541 | -.47057 | .47818 | 1.00000 |
| S711 | -.35888 | .32509 | -.41721 | -.69346 | .54706 | .60732 | .41557 | .49112 | -.39305 | -.62894 |
| S712 | .05194 | -.18810 | .16858 | .05498 | -.05782 | .14998 | -.09903 | -.17040 | .20837 | -.03235 |

| | S711 | S712 |
|---|---|---|
| S701 | -.35888 | .05194 |
| S702 | .32509 | -.18810 |
| S703 | -.41721 | .16858 |
| S704 | -.69346 | .05498 |
| S705 | .54706 | -.05782 |
| S706 | .60732 | .14998 |
| S707 | .41557 | -.09903 |
| S708 | .49112 | -.17040 |
| S709 | -.39305 | .20837 |
| S710 | -.62894 | -.03235 |
| S711 | 1.00000 | -.07056 |
| S712 | -.07056 | 1.00000 |

DETERMINANT OF CORRELATION MATRIX = .0006382( .63822907E-03)

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Table 23
Section 7: Correlations of Matched Items
Respondent Level (n=3354 to 3373)
Institution Level (n=334)

| Type of Decision Process | Correlation Between Items | Respondent Level | Institution Level |
|---|---|---|---|
| Bureaucratic | 1 & 7 | -.11 | -.06 |
| Autocratic | 2 & 8 | .60 | .71 |
| Collegial | 3 & 9 | .65 | .75 |
| Rational | 4 & 10 | .66 | .71 |
| Org.Anarchy | 5 & 11 | .46 | .55 |
| Political | 6 & 12 | .11 | .15 |

example, the correlation between the collegial decision item (#3) and the autocratic item (#8) is -.56, and -.74, at the respondent and institution level, respectively.

The results of these analyses suggest that the items in four of the six pairs provide reasonably good information about the dimensions or constructs they are intended to measure. The results suggest that the items measuring bureacratic and political decisionmaking conditions are poor measures of their constructs.

The items in Section 8: Performance and Actions of the Institution were extracted from Kim Cameron's effectiveness questionnaire (1978). These items operationalize the nine scales or dimensions as explained briefly below.

| Dimension | | Explanation |
|---|---|---|
| 1 | Student Educational Satisfaction | The degree to which students are satisfied with their educational experiences at the institution. |
| 2 | Student Academic Development | The degree of academic attainment, growth, and progress of students and the academic opportunities provided by the institution. |
| 3 | Student Career Development | The degree of vocational and occupational development among students and the opportunities for career training provided by the institution. |
| 4 | Student Personal Development | The degree of nonacademic, noncareer development (e.g., cultural, emotional, and social) and the opportunities for and emphasis placed on personal development by the institution. |

| | | |
|---|---|---|
| 5 | Faculty and Administrator Satisfaction | The satisfaction of faculty members and administrators with their employment. |
| 6 | Professional Development and Quality of the Faculty | The degree of professional attainment and development of the faculty and the emphasis and opportunities for professional development provided by the institution. |
| 7 | System Openness and Community Interaction | The emphasis placed on interaction with, adaption to, and service for constituencies in the external environment. |
| 8 | Ability to Acquire Resources | The ability of the institution to acquire resources such as good students and faculty and financial support. |
| 9 | Organizational Health | The vitality and benevolence of the internal processes in the institution such as openness and trust, problem solving adequacy, shared information. |

The correlations between all items in Section 8 are reported at the respondent and institution level in Tables 24A and 24B, respectively. The correlations between items purported to measure the same scale are reported in Table 25 along with internal consistency estimates (coefficient alphas) for data analyzed at the respondent level. The alphas range from .59 to .85 and are consistent with the internal consistency measures reported in Cameron's work.

To assess the validity of the scales, factor analyses at the respondent level (n=2966) and at the institution level (n=334) were performed. In both cases the type of respondent was ignored and a principal-factor solution with iteration was selected. The varimax rotated factor matrix (factor loadings) at the respondent

Table 24 A

Section 8

CORRELATION COEFFICIENTS.at the respondent level

| | S801 | S802 | S803 | S804 | S805 | S806 | S807 | S808 | S809 | S810 |
|---|---|---|---|---|---|---|---|---|---|---|
| S801 | 1.00000 | .31981 | .21283 | .15825 | .29569 | .25873 | .24354 | .50269 | .32787 | .57830 |
| S802 | .31981 | 1.00000 | .28157 | .21236 | .22650 | .23833 | .19826 | .22211 | .34354 | .27445 |
| S803 | .21283 | .28157 | 1.00000 | .45169 | .21227 | .22150 | .14161 | .19762 | .23112 | .25909 |
| S804 | .15825 | .21236 | .45169 | 1.00000 | .22792 | .22770 | .14846 | .11767 | .15961 | .21992 |
| S805 | .29569 | .22650 | .21227 | .22792 | 1.00000 | .63890 | .61612 | .22337 | .24499 | .28120 |
| S806 | .25873 | .23833 | .22150 | .22770 | .63890 | 1.00000 | .63042 | .20607 | .21573 | .25620 |
| S807 | .24354 | .19826 | .14161 | .14846 | .61612 | .63042 | 1.00000 | .17584 | .21910 | .21956 |
| S808 | .50269 | .22211 | .19762 | .11767 | .22337 | .20607 | .17584 | 1.00000 | .44967 | .54699 |
| S809 | .32787 | .34354 | .23112 | .15961 | .24499 | .21573 | .21910 | .44967 | 1.00000 | .40799 |
| S810 | .57830 | .27445 | .25909 | .21992 | .28120 | .25620 | .21956 | .54699 | .40799 | 1.00000 |
| S811 | .21812 | .33615 | .20456 | .18192 | .23108 | .18441 | .16251 | .25417 | .51574 | .31544 |
| S812 | .27414 | .16834 | .32612 | .40797 | .27849 | .30554 | .20735 | .15843 | .17163 | .28292 |
| S813 | .17774 | .11152 | .23042 | .30590 | .13002 | .15121 | .07879 | .09636 | .08645 | .18562 |
| S814 | .21262 | .18850 | .24417 | .29921 | .20998 | .20407 | .13579 | .14992 | .21578 | .22777 |
| S815 | .09494 | .12673 | .07546 | .08341 | .13499 | .14934 | .13290 | .05180 | .09614 | .10066 |
| S816 | .00182 | .16209 | .05373 | .07294 | .11635 | .16216 | .13065 | -.05675 | .09663 | -.00511 |
| S817 | .02054 | .12023 | .00091 | .00977 | .05594 | .08251 | .07949 | .03099 | .06889 | .02712 |
| S818 | .24198 | .21700 | .28159 | .28608 | .34627 | .31254 | .28574 | .18169 | .19884 | .26197 |
| S819 | .21298 | .20275 | .20779 | .22295 | .24966 | .22913 | .20481 | .16152 | .16083 | .23427 |
| S820 | .23677 | .24374 | .28283 | .28453 | .36760 | .34087 | .30863 | .17829 | .24379 | .27234 |
| S821 | .19085 | .26348 | .21355 | .20473 | .26496 | .25786 | .23325 | .15601 | .19992 | .20712 |
| S822 | .01050 | .06073 | .20623 | .33595 | .11024 | .16975 | .07887 | .01172 | .04827 | .07101 |
| S823 | .19585 | .20951 | .17688 | .26054 | .17126 | .22544 | .17012 | .11702 | .19206 | .18696 |
| S824 | .09721 | .15189 | .20994 | .30946 | .14386 | .19206 | .13709 | .07398 | .11293 | .12768 |
| S825 | .17485 | .13972 | .30250 | .34918 | .23675 | .28988 | .18324 | .14363 | .15981 | .22845 |
| S826 | .38969 | .18987 | .08492 | .06263 | .22002 | .20228 | .21499 | .29249 | .23161 | .30937 |
| S827 | .26597 | .26080 | .23459 | .23098 | .32154 | .28277 | .28975 | .16671 | .25444 | .26237 |
| S828 | .25358 | .35375 | .33350 | .27337 | .39169 | .34817 | .34078 | .22138 | .28573 | .28363 |
| S829 | .23180 | .25614 | .23277 | .22706 | .32838 | .28891 | .28672 | .16800 | .19450 | .23556 |
| S830 | .22936 | .25847 | .23051 | .24949 | .35493 | .29756 | .30282 | .17321 | .20422 | .23866 |
| S831 | .17429 | .28393 | .25930 | .28356 | .24868 | .24335 | .20909 | .13319 | .23542 | .20682 |
| S832 | .22968 | .28541 | .24306 | .24450 | .31361 | .27442 | .26333 | .18152 | .24255 | .24109 |

Table 24 A
(Continued)

| | S811 | S812 | S813 | S814 | S815 | S816 | S817 | S818 | S819 | S820 |
|---|---|---|---|---|---|---|---|---|---|---|
| S801 | .21812 | .27414 | .17774 | .21262 | .09494 | .00182 | .02054 | .24198 | .21298 | .23677 |
| S802 | .33615 | .16834 | .11152 | .18850 | .12673 | .16209 | .12023 | .21700 | .20275 | .24374 |
| S803 | .20456 | .32612 | .23042 | .24417 | .07546 | .05373 | .00091 | .28159 | .20779 | .28283 |
| S804 | .18192 | .40797 | .30590 | .29921 | .08341 | .07294 | .00977 | .28608 | .22295 | .28453 |
| S805 | .23108 | .27849 | .13002 | .20998 | .13499 | .11635 | .05594 | .34627 | .24966 | .36760 |
| S806 | .18441 | .30554 | .15121 | .20407 | .14934 | .16216 | .08251 | .31254 | .22913 | .34087 |
| S807 | .16251 | .20735 | .07879 | .13579 | .13290 | .13065 | .07949 | .28574 | .20481 | .30863 |
| S808 | .25417 | .15843 | .09636 | .14992 | .05180 | -.05675 | .03099 | .18169 | .16152 | .17829 |
| S809 | .51574 | .17163 | .08645 | .21578 | .09614 | .09663 | .06889 | .19884 | .16083 | .24379 |
| S810 | .31544 | .28292 | .18562 | .22777 | .10066 | -.00511 | .02712 | .26197 | .23427 | .27234 |
| S811 | 1.00000 | .14665 | .06946 | .19138 | .08395 | .10243 | .06434 | .15886 | .11089 | .20440 |
| S812 | .14665 | 1.00000 | .36701 | .37037 | .16417 | .12166 | .05826 | .32952 | .26958 | .33936 |
| S813 | .06946 | .36701 | 1.00000 | .35814 | .07451 | .06486 | -.03937 | .16533 | .11524 | .19320 |
| S814 | .19138 | .37037 | .35814 | 1.00000 | .14557 | .11060 | .06711 | .22196 | .17323 | .23156 |
| S815 | .08395 | .16417 | .07451 | .14557 | 1.00000 | .28663 | .36107 | .15809 | .09452 | .15778 |
| S816 | .10243 | .12166 | .06486 | .11060 | .28663 | 1.00000 | .33005 | .11564 | .08478 | .14535 |
| S817 | .06434 | .05826 | -.03937 | .06711 | .36107 | .33005 | 1.00000 | .09000 | .09750 | .08929 |
| S818 | .15886 | .32952 | .16533 | .22196 | .15809 | .11564 | .09000 | 1.00000 | .51272 | .61123 |
| S819 | .11089 | .26958 | .11524 | .17323 | .09452 | .08478 | .09750 | .51272 | 1.00000 | .40858 |
| S820 | .20440 | .33936 | .19320 | .23156 | .15778 | .14535 | .08929 | .61123 | .40858 | 1.00000 |
| S821 | .14001 | .24627 | .10898 | .17103 | .12152 | .13207 | .11606 | .35906 | .60120 | .51650 |
| S822 | .08300 | .24936 | .22634 | .27553 | .07280 | .07583 | -.00226 | .10516 | .06088 | .11423 |
| S823 | .15209 | .31676 | .20944 | .28213 | .10496 | .12708 | .08941 | .20934 | .17511 | .25447 |
| S824 | .11385 | .28498 | .26995 | .25167 | .10704 | .10557 | .05158 | .14408 | .09975 | .18137 |
| S825 | .13851 | .40613 | .30920 | .29925 | .16847 | .11405 | .07349 | .24903 | .19074 | .26051 |
| S826 | .14860 | .16883 | .11750 | .14832 | .07457 | .00488 | -.00401 | .15599 | .14523 | .15719 |
| S827 | .20985 | .25278 | .13842 | .20454 | .12232 | .11587 | .09071 | .36834 | .29084 | .39329 |
| S828 | .23978 | .27681 | .15627 | .21128 | .14398 | .10779 | .09451 | .42476 | .35032 | .46598 |
| S829 | .17052 | .23735 | .13059 | .17936 | .09395 | .07794 | .06433 | .37888 | .30446 | .43496 |
| S830 | .16617 | .24748 | .13397 | .17691 | .10784 | .08938 | .07632 | .38372 | .31806 | .44995 |
| S831 | .21074 | .24166 | .16141 | .21036 | .08959 | .09379 | .04744 | .33054 | .24409 | .34574 |
| S832 | .22333 | .22661 | .14248 | .21755 | .11375 | .11318 | .05385 | .32205 | .24519 | .36462 |

Table 24 A
(Continued)

| | S821 | S822 | S823 | S824 | S825 | S826 | S827 | S828 | S829 | S830 |
|---|---|---|---|---|---|---|---|---|---|---|
| S801 | .19085 | .01050 | .19585 | .09721 | .17485 | .38969 | .26597 | .25358 | .23180 | .22936 |
| S802 | .26348 | .06073 | .20951 | .15189 | .13972 | .18987 | .26080 | .35375 | .25614 | .25847 |
| S803 | .21355 | .20623 | .17688 | .20994 | .30250 | .09492 | .23459 | .33350 | .23277 | .25051 |
| S804 | .20473 | .33595 | .26054 | .30946 | .34918 | .06263 | .23098 | .27337 | .22706 | .24949 |
| S805 | .26496 | .11024 | .17126 | .14386 | .23675 | .22002 | .32154 | .39169 | .32838 | .35493 |
| S806 | .25786 | .16975 | .22544 | .19206 | .28988 | .20228 | .28277 | .34817 | .28891 | .29756 |
| S807 | .23325 | .07887 | .17012 | .13709 | .18324 | .21499 | .28975 | .34078 | .28672 | .30282 |
| S808 | .15601 | .01172 | .11702 | .07398 | .14363 | .29249 | .16671 | .22138 | .16800 | .17321 |
| S809 | .19992 | .04827 | .19206 | .11293 | .15981 | .23161 | .25444 | .28573 | .19450 | .20422 |
| S810 | .20712 | .07101 | .18696 | .12768 | .22845 | .30937 | .26237 | .28363 | .23556 | .23866 |
| S811 | .14001 | .08300 | .15209 | .11385 | .13851 | .14860 | .20985 | .23978 | .17052 | .16617 |
| S812 | .24627 | .24936 | .31676 | .28498 | .40613 | .16883 | .25278 | .27681 | .23735 | .24748 |
| S813 | .10893 | .22634 | .20944 | .26995 | .30920 | .11750 | .13842 | .15627 | .13059 | .13397 |
| S814 | .17103 | .27553 | .28213 | .25167 | .29925 | .14832 | .20454 | .21128 | .17936 | .17691 |
| S815 | .12152 | .07280 | .10496 | .10704 | .16847 | .07457 | .12232 | .14398 | .09595 | .10784 |
| S816 | .13207 | .07583 | .12708 | .10557 | .11405 | .00488 | .11587 | .10779 | .07794 | .09938 |
| S817 | .11606 | -.00226 | .08941 | .05158 | .07349 | -.00401 | .09071 | .09451 | .06433 | .07632 |
| S818 | .35906 | .10516 | .20934 | .14408 | .24903 | .15599 | .36834 | .42476 | .37888 | .38372 |
| S819 | .60120 | .06088 | .17511 | .09975 | .19074 | .14523 | .29084 | .35032 | .30446 | .31806 |
| S820 | .51650 | .11423 | .25447 | .18137 | .26051 | .15719 | .39329 | .46598 | .43496 | .44995 |
| S821 | 1.00000 | .10263 | .19399 | .12842 | .20456 | .15335 | .31401 | .38570 | .34490 | .36837 |
| S822 | .10263 | 1.00000 | .30835 | .44477 | .25730 | -.02245 | .09932 | .10911 | .09112 | .08659 |
| S823 | .19399 | .30835 | 1.00000 | .48699 | .26500 | .17985 | .22627 | .22525 | .20844 | .20326 |
| S824 | .12842 | .44477 | .48699 | 1.00000 | .29643 | .09309 | .15107 | .16818 | .15809 | .15737 |
| S825 | .20456 | .25730 | .26500 | .29643 | 1.00000 | .08016 | .19541 | .24649 | .20352 | .21588 |
| S826 | .15335 | -.02245 | .17985 | .09309 | .08016 | 1.00000 | .28733 | .23406 | .19726 | .19808 |
| S827 | .31401 | .09932 | .22627 | .15107 | .19541 | .28733 | 1.00000 | .55159 | .44040 | .46886 |
| S828 | .38570 | .10911 | .22525 | .16818 | .24649 | .23406 | .55159 | 1.00000 | .52360 | .55222 |
| S829 | .34490 | .09112 | .20844 | .15809 | .20352 | .19726 | .44040 | .52360 | 1.00000 | .68093 |
| S830 | .36837 | .08659 | .20326 | .15737 | .21588 | .19808 | .46886 | .55222 | .68093 | 1.00000 |
| S831 | .25349 | .14965 | .21162 | .17163 | .20520 | .13597 | .48056 | .47724 | .36680 | .36151 |
| S832 | .28864 | .12050 | .20939 | .15391 | .20799 | .20501 | .48771 | .52899 | .40104 | .38744 |

Table 24 A
(Continued)

| | S831 | S832 |
|---|---|---|
| S801 | .17429 | .22968 |
| S802 | .28393 | .28541 |
| S803 | .25930 | .24306 |
| S804 | .28356 | .24450 |
| S805 | .24868 | .31361 |
| S806 | .24335 | .27442 |
| S807 | .20909 | .26333 |
| S808 | .13319 | .18152 |
| S809 | .23542 | .24255 |
| S810 | .20682 | .24109 |
| S811 | .21074 | .22833 |
| S812 | .24166 | .22661 |
| S813 | .16141 | .14248 |
| S814 | .21036 | .21755 |
| S815 | .08959 | .11375 |
| S816 | .09379 | .11318 |
| S817 | .04744 | .05385 |
| S818 | .33054 | .32205 |
| S819 | .24409 | .24519 |
| S820 | .34574 | .36462 |
| S821 | .25349 | .28864 |
| S822 | .14965 | .12050 |
| S823 | .21162 | .20939 |
| S824 | .17163 | .15391 |
| S825 | .20520 | .20799 |
| S826 | .13597 | .20501 |
| S827 | .48056 | .48771 |
| S828 | .47724 | .52899 |
| S829 | .36680 | .40104 |
| S830 | .36151 | .38744 |
| S831 | 1.00000 | .51180 |
| S832 | .51180 | 1.00000 |

DETERMINANT OF CORRELATION MATRIX = .0000159( .15917682E-04)

Section 8

CORRELATION COEFFICIENTS.at the institution level

| | S801 | S802 | S803 | S804 | S805 | S806 | S807 | S808 | S809 | S810 |
|---|---|---|---|---|---|---|---|---|---|---|
| S801 | 1.00000 | .30337 | .21529 | .01337 | .38947 | .32449 | .27366 | .71349 | .39632 | .80449 |
| S802 | .30337 | 1.00000 | .24192 | .04757 | .27799 | .23574 | .23921 | .20421 | .37108 | .25419 |
| S803 | .21529 | .24192 | 1.00000 | .56765 | .26665 | .34867 | .19165 | .24916 | .19157 | .27050 |
| S804 | .01337 | .04757 | .56765 | 1.00000 | .16600 | .32279 | .10665 | .04154 | .00143 | .13134 |
| S805 | .38947 | .27799 | .26665 | .16600 | 1.00000 | .74920 | .76473 | .29368 | .31522 | .35012 |
| S806 | .32449 | .23574 | .34867 | .32279 | .74920 | 1.00000 | .72282 | .25148 | .20820 | .31288 |
| S807 | .27366 | .23921 | .19165 | .10665 | .76473 | .72282 | 1.00000 | .27778 | .33509 | .23194 |
| S808 | .71349 | .20421 | .24916 | .04154 | .29368 | .25148 | .27778 | 1.00000 | .53299 | .76244 |
| S809 | .39632 | .37108 | .19157 | .00143 | .31522 | .20820 | .33509 | .53299 | 1.00000 | .39176 |
| S810 | .80449 | .25419 | .27050 | .13134 | .35012 | .31288 | .23194 | .76244 | .39176 | 1.00000 |
| S811 | .13560 | .31557 | .10606 | .04172 | .26644 | .12308 | .25187 | .24636 | .60634 | .16714 |
| S812 | .29682 | .13647 | .47263 | .54587 | .35861 | .51367 | .24176 | .19722 | .07394 | .35920 |
| S813 | .23420 | -.02883 | .36973 | .50710 | .14537 | .27308 | .04271 | .18947 | .00150 | .30156 |
| S814 | .26174 | .14664 | .36542 | .49181 | .28499 | .37167 | .19402 | .12041 | .10463 | .28374 |
| S815 | .05724 | .21033 | .10224 | .09151 | .24530 | .27109 | .25173 | .02224 | .10131 | .04574 |
| S816 | -.14826 | .19118 | -.01149 | .06800 | .23192 | .27924 | .26381 | -.21853 | -.00609 | -.19910 |
| S817 | -.05842 | .18609 | -.08268 | -.05098 | .11653 | .13198 | .13107 | -.05133 | .04205 | -.08125 |
| S818 | .35393 | .23390 | .34133 | .33821 | .48308 | .45770 | .37854 | .27415 | .16561 | .37166 |
| S819 | .42082 | .20148 | .30202 | .22647 | .38432 | .38455 | .27611 | .31738 | .17600 | .39904 |
| S820 | .35586 | .25860 | .39661 | .34474 | .55347 | .51579 | .47638 | .27677 | .24449 | .34583 |
| S821 | .32692 | .29854 | .29403 | .24428 | .39603 | .37828 | .31599 | .25703 | .23628 | .32094 |
| S822 | -.17977 | -.11704 | .34020 | .64940 | .05778 | .24210 | .01798 | -.16634 | -.18426 | -.10930 |
| S823 | .19150 | .17148 | .27161 | .41504 | .19562 | .35045 | .18570 | .06009 | .04953 | .19590 |
| S824 | -.03641 | -.02552 | .34147 | .63290 | .16619 | .33442 | .15395 | -.03662 | -.10211 | .02150 |
| S825 | .18512 | .00114 | .38525 | .49798 | .32036 | .47234 | .24212 | .20790 | .11599 | .28639 |
| S826 | .66265 | .34422 | .14483 | -.09014 | .45049 | .36823 | .33998 | .45711 | .33246 | .56415 |
| S827 | .37668 | .27347 | .32680 | .24898 | .43478 | .42902 | .38907 | .24961 | .27151 | .35370 |
| S828 | .32742 | .35706 | .41253 | .29807 | .57344 | .48954 | .47097 | .24635 | .23306 | .32245 |
| S829 | .38081 | .34002 | .35943 | .26736 | .49535 | .40311 | .41057 | .29008 | .28452 | .34842 |
| S830 | .35548 | .36075 | .33604 | .29095 | .54897 | .44033 | .43719 | .24363 | .23670 | .31178 |
| S831 | .18428 | .19174 | .33257 | .29190 | .35173 | .28446 | .25685 | .18535 | .23828 | .24067 |
| S832 | .28675 | .27277 | .19147 | .17914 | .40653 | .32550 | .36706 | .26632 | .26410 | .25707 |

Table 24 B
(Continued)

| | S811 | S812 | S813 | S814 | S815 | S816 | S817 | S818 | S819 | S820 |
|---|---|---|---|---|---|---|---|---|---|---|
| S801 | .13560 | .29682 | .23420 | .26174 | .05724 | -.14828 | -.05842 | .35393 | .42092 | .35586 |
| S802 | .31557 | .13647 | -.02883 | .14664 | .21033 | .19113 | .18609 | .23390 | .20148 | .25860 |
| S803 | .10606 | .47263 | .36973 | .36542 | .10224 | -.01149 | -.08268 | .34133 | .30202 | .39661 |
| S804 | .04172 | .54587 | .50710 | .49181 | .09151 | .06300 | -.05099 | .33821 | .22647 | .34474 |
| S805 | .26644 | .35861 | .14537 | .28499 | .24530 | .23192 | .11653 | .48308 | .38432 | .55347 |
| S806 | .12308 | .51367 | .27308 | .37167 | .27109 | .27924 | .13198 | .45770 | .38455 | .51579 |
| S807 | .25187 | .24176 | .04271 | .19402 | .25173 | .26381 | .13107 | .37854 | .27611 | .47638 |
| S808 | .24636 | .19722 | .18947 | .12041 | .02224 | -.21853 | -.05133 | .27415 | .31738 | .27677 |
| S809 | .60634 | .07394 | .00150 | .10463 | .10131 | -.00609 | .04205 | .16561 | .17600 | .24449 |
| S810 | .16714 | .35920 | .30156 | .28374 | .04574 | -.19910 | -.03125 | .37166 | .39904 | .34583 |
| S811 | 1.00000 | -.02981 | -.08700 | .01384 | .06185 | -.00078 | .01454 | .06553 | .02003 | .13151 |
| S812 | -.02981 | 1.00000 | .62200 | .62785 | .29159 | .18845 | .06875 | .50444 | .38496 | .50659 |
| S813 | -.08700 | .62200 | 1.00000 | .57166 | -.01345 | -.01736 | -.18830 | .32536 | .24914 | .33760 |
| S814 | .01394 | .62785 | .57166 | 1.00000 | .14885 | .17415 | -.00170 | .32842 | .28628 | .33058 |
| S815 | .06185 | .29159 | -.01345 | .14885 | 1.00000 | .54166 | .70018 | .30447 | .27069 | .31047 |
| S816 | -.00078 | .18845 | -.01736 | .17415 | .54166 | 1.00000 | .62371 | .28881 | .22906 | .33641 |
| S817 | .01454 | .06875 | -.18830 | -.00170 | .70018 | .62371 | 1.00000 | .23873 | .23603 | .22168 |
| S818 | .06553 | .50444 | .32536 | .32842 | .30447 | .28881 | .23873 | 1.00000 | .70716 | .77359 |
| S819 | .02003 | .38496 | .24914 | .28628 | .27069 | .22906 | .23603 | .70716 | 1.00000 | .61521 |
| S820 | .13151 | .50659 | .33760 | .33058 | .31047 | .33641 | .22168 | .77359 | .61521 | 1.00000 |
| S821 | .10618 | .41716 | .21219 | .25781 | .35119 | .32377 | .29432 | .61272 | .76782 | .71337 |
| S822 | -.06281 | .48638 | .40041 | .45456 | .08346 | .17154 | -.04068 | .19478 | .02359 | .17520 |
| S823 | -.00291 | .57464 | .41349 | .51031 | .15983 | .17809 | .06084 | .39633 | .33804 | .36965 |
| S824 | -.01077 | .57193 | .41861 | .52746 | .11653 | .16895 | -.02122 | .29231 | .15216 | .27735 |
| S825 | .04856 | .65691 | .48053 | .50504 | .27139 | .15079 | .10997 | .45094 | .34173 | .43708 |
| S826 | .08973 | .30575 | .15225 | .20475 | .10782 | -.02036 | -.00255 | .31494 | .35364 | .33314 |
| S827 | .13348 | .45879 | .26168 | .32093 | .19959 | .14158 | .05598 | .45736 | .35807 | .49619 |
| S828 | .17209 | .38123 | .18618 | .24962 | .23305 | .20065 | .13061 | .53195 | .45640 | .60418 |
| S829 | .12911 | .36188 | .19763 | .24643 | .18329 | .14685 | .11681 | .46613 | .43910 | .54792 |
| S830 | .08909 | .34517 | .20341 | .26300 | .19621 | .18406 | .11319 | .48685 | .43933 | .57022 |
| S831 | .16783 | .30154 | .13543 | .18794 | .05142 | .07817 | -.02958 | .35686 | .21709 | .37828 |
| S832 | .22545 | .17248 | .09716 | .16710 | .10056 | .10155 | .01904 | .28412 | .19269 | .35783 |

Table 24 B
(Continued)

| | S821 | S822 | S823 | S824 | S825 | S826 | S827 | S828 | S829 | S830 |
|---|---|---|---|---|---|---|---|---|---|---|
| S801 | .32692 | -.17977 | .19150 | -.03641 | .18512 | .66265 | .37668 | .32742 | .38081 | .35543 |
| S802 | .29854 | -.11704 | .17148 | -.02552 | .00114 | .34422 | .27347 | .35706 | .34002 | .36075 |
| S803 | .29403 | .34020 | .27161 | .34147 | .38525 | .14483 | .32680 | .41253 | .35943 | .33604 |
| S804 | .24428 | .64940 | .41504 | .63290 | .49790 | -.09014 | .24898 | .29807 | .26736 | .29095 |
| S805 | .39603 | .05778 | .19562 | .16619 | .32036 | .45049 | .43478 | .57344 | .49535 | .54397 |
| S806 | .37826 | .24210 | .35045 | .33442 | .47234 | .36823 | .42902 | .48954 | .40311 | .44033 |
| S807 | .31599 | .01798 | .18570 | .15395 | .24212 | .33998 | .38907 | .47097 | .41057 | .43719 |
| S808 | .25703 | -.16634 | .06009 | -.03662 | .20790 | .45711 | .24961 | .24635 | .29008 | .24363 |
| S809 | .23628 | -.18426 | .04953 | -.10211 | .11599 | .33246 | .27151 | .23306 | .28452 | .23670 |
| S810 | .32084 | -.10930 | .19590 | .02150 | .29639 | .56415 | .35370 | .32245 | .34342 | .31178 |
| S811 | .10610 | -.06201 | -.00291 | -.01077 | .04656 | .08973 | .13348 | .17209 | .12911 | .03909 |
| S812 | .41716 | .48638 | .57464 | .57195 | .65691 | .30575 | .45379 | .38123 | .36180 | .34517 |
| S813 | .21219 | .40041 | .41349 | .41861 | .48053 | .15225 | .26168 | .18618 | .19763 | .20341 |
| S814 | .25781 | .45456 | .51031 | .52746 | .50504 | .20475 | .32098 | .24962 | .24643 | .26300 |
| S815 | .35119 | .08846 | .15983 | .11653 | .27139 | .10782 | .19959 | .23305 | .18329 | .19621 |
| S816 | .32377 | .17154 | .17809 | .16895 | .15079 | -.02036 | .14150 | .20065 | .14685 | .18406 |
| S817 | .29432 | -.04068 | .06084 | -.02122 | .10997 | -.00255 | .05598 | .13061 | .11681 | .11319 |
| S818 | .61272 | .19478 | .39633 | .29231 | .45094 | .31494 | .45736 | .53195 | .46613 | .48685 |
| S819 | .76782 | .02359 | .33804 | .15216 | .34173 | .35364 | .35807 | .45640 | .43910 | .43933 |
| S820 | .71337 | .17528 | .36965 | .27735 | .43703 | .33314 | .49619 | .60418 | .54792 | .57022 |
| S821 | 1.00000 | .05770 | .32925 | .16242 | .34065 | .34911 | .42909 | .50957 | .47178 | .48932 |
| S822 | .05770 | 1.00000 | .46606 | .77891 | .45402 | -.23406 | .09382 | .07241 | .04693 | .06343 |
| S823 | .32925 | .46606 | 1.00000 | .62471 | .42254 | .22563 | .39977 | .25419 | .31875 | .31090 |
| S824 | .16242 | .77891 | .62471 | 1.00000 | .50877 | -.05654 | .24031 | .21689 | .21696 | .20358 |
| S825 | .34065 | .45402 | .42254 | .50877 | 1.00000 | .11252 | .30899 | .31946 | .25171 | .24825 |
| S826 | .34911 | -.23406 | .22563 | -.05654 | .11252 | 1.00000 | .49386 | .37525 | .43446 | .38381 |
| S827 | .42909 | .09382 | .39977 | .24031 | .30899 | .49386 | 1.00000 | .64855 | .65018 | .61368 |
| S828 | .50957 | .07241 | .25419 | .21689 | .31946 | .37525 | .64855 | 1.00000 | .71158 | .73372 |
| S829 | .47178 | .04693 | .31875 | .21696 | .25171 | .43446 | .65018 | .71158 | 1.00000 | .83066 |
| S830 | .48982 | .08343 | .31090 | .20358 | .24825 | .38381 | .61368 | .73372 | .83066 | 1.00000 |
| S831 | .30211 | .19194 | .20091 | .22731 | .24245 | .16246 | .51765 | .50189 | .41824 | .42411 |
| S832 | .25795 | .04176 | .17148 | .12884 | .20516 | .22019 | .48709 | .56514 | .45925 | .45478 |

Table 24 B
(Continued)

| | S831 | S832 |
|---|---|---|
| S801 | .18428 | .28675 |
| S802 | .19174 | .27277 |
| S803 | .33257 | .19147 |
| S804 | .29190 | .17914 |
| S805 | .35173 | .40653 |
| S806 | .28446 | .32550 |
| S807 | .25685 | .36706 |
| S808 | .19535 | .26632 |
| S809 | .23828 | .26410 |
| S810 | .24067 | .25707 |
| S811 | .16783 | .22545 |
| S812 | .30154 | .17240 |
| S813 | .13543 | .09716 |
| S814 | .18794 | .16710 |
| S815 | .05142 | .10056 |
| S816 | .07817 | .10155 |
| S817 | -.02950 | .01904 |
| S818 | .35686 | .28412 |
| S819 | .21709 | .19269 |
| S820 | .37828 | .35783 |
| S821 | .30211 | .25795 |
| S822 | .19194 | .04176 |
| S823 | .20091 | .17148 |
| S824 | .22731 | .12884 |
| S825 | .24245 | .20516 |
| S826 | .16246 | .22019 |
| S827 | .51765 | .48709 |
| S828 | .50189 | .56514 |
| S829 | .41824 | .45925 |
| S830 | .42411 | .45478 |
| S831 | 1.00000 | .55618 |
| S832 | .55618 | 1.00000 |

DETERMINANT OF CORRELATION MATRIX = .00004.3X .66821118E-10)

Table 25
Section 8: Correlation Matrix for each
Institutional Effectiveness Scale

| Scale 1 | 5 | 6 | 7 | | |
|---|---|---|---|---|---|
| 5 | 1.0 | | | | |
| 6 | .64 | 1.0 | | | |
| 7 | .62 | .63 | 1.0 | | alpha=.83 |

| Scale 2 | 12 | 13 | 14 | | |
|---|---|---|---|---|---|
| 12 | 1.0 | | | | |
| 13 | .37 | 1.0 | | | |
| 14 | .37 | .36 | 1.0 | | alpha=.63 |

| Scale 3 | 15 | 16 | 17 | | |
|---|---|---|---|---|---|
| 15 | 1.0 | | | | |
| 16 | .29 | 1.0 | | | |
| 17 | .36 | .33 | 1.0 | | alpha=.59 |

| Scale 4 | 1 | 8 | 10 | | |
|---|---|---|---|---|---|
| 1 | 1.0 | | | | |
| 8 | .50 | 1.0 | | | |
| 10 | .58 | .55 | 1.0 | | alpha=.78 |

| Scale 5 | 18 | 19 | 20 | 21 | |
|---|---|---|---|---|---|
| 18 | 1.0 | | | | |
| 19 | .51 | 1.0 | | | |
| 20 | .61 | .41 | 1.0 | | |
| 21 | .36 | .60 | .52 | 1.0 | alpha=.80 |

| Scale 6 | 22 | 23 | 24 | | |
|---|---|---|---|---|---|
| 22 | 1.0 | | | | |
| 23 | .31 | 1.0 | | | |
| 24 | .44 | .49 | 1.0 | | alpha=.68 |

| Scale 7 | 2 | 9 | 11 | | |
|---|---|---|---|---|---|
| 2 | 1.0 | | | | |
| 9 | .34 | 1.0 | | | |
| 11 | .34 | .52 | 1.0 | | alpha=.67 |

| Scale 8 | 3 | 4 | 25 | | |
|---|---|---|---|---|---|
| 3 | 1.0 | | | | |
| 4 | .45 | 1.0 | | | |
| 25 | .30 | .35 | 1.0 | | alpha=.64 |

| Scale 9 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
|---|---|---|---|---|---|---|---|
| 26 | 1.0 | | | | | | |
| 27 | .29 | 1.0 | | | | | |
| 28 | .23 | .55 | 1.0 | | | | |
| 29 | .20 | .44 | .52 | 1.0 | | | |
| 30 | .20 | .47 | .55 | .68 | 1.0 | | |
| 31 | .14 | .48 | .48 | .37 | .36 | 1.0 | |
| 32 | .20 | .49 | .55 | .40 | .39 | .51 | 1.0 |
| | alpha=.83 | | | | | | |

level is Table 26A. Table 26B reports the results at the institution level.

In the respondent level factor analysis there were 8 factors with eigenvalues in excess of 1.0 which in total accounted for 60% of the variance. Table 26A indicates (boldface) the items which highly loaded on each of the factors. The Institutional Effectiveness scale definitions corresponding to the factors are also included.

The only item which did not "fit" into its pre-defined scale was item 26. This item was included in the organizational health scale but correlated more highly with the student personal development scale. However, upon inspection of the wording of this item (student/faculty relationships) it appears its loading on the Student Personal Development scale is justifiable. Items from institutional effectiveness scales 2 (student academic development) and 8 (ability to acquire resources) loaded onto the same factor.

The institution level factor analysis, reported in Table 26B, produced seven factors with eigenvalues greater than 1.0. These factors accounted for 72% of the variance. As in the respondent level factor analysis, item 26 loaded more highly onto the factor defining scale four than onto the factor defining scale nine. Again, items from scales two and eight loaded onto the same factor, as well as items from scale six (professional development and quality of faculty).

Table 26A

Factor Analysis of Section 8 Items
**Respondent Level**

| | Factor | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Item | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 26 | .20 | .01 | **.45** | .12 | .04 | .03 | .01 | .09 |
| 27 | **.64** | .12 | .17 | .12 | .12 | .09 | .09 | .07 |
| 28 | **.68** | .16 | .13 | .17 | .20 | .15 | .07 | .03 |
| 29 | **.63** | .10 | .13 | .14 | .22 | -.00 | .02 | .08 |
| 30 | **.64** | .11 | .13 | .16 | .23 | -.00 | .04 | .07 |
| 31 | **.57** | .22 | .03 | .06 | .08 | .18 | .04 | .06 |
| 32 | **.60** | .16 | .10 | .11 | .08 | .16 | .06 | .05 |
| 12 | .14 | **.58** | .18 | .13 | .17 | -.02 | .11 | .12 |
| 13 | .08 | **.51** | .13 | .02 | .02 | -.05 | .01 | .13 |
| 14 | .12 | **.45** | .15 | .05 | .06 | .10 | .12 | .17 |
| 3 | .22 | **.48** | .07 | .05 | .13 | .22 | -.03 | -.00 |
| 4 | .19 | **.60** | -.01 | .07 | .12 | .15 | -.02 | .11 |
| 25 | .12 | **.50** | .09 | .14 | .10 | .04 | .12 | .14 |
| 1 | .14 | .16 | **.72** | .12 | .09 | .09 | .02 | .01 |
| 8 | .06 | .09 | **.62** | .08 | .08 | .27 | -.04 | -.01 |
| 10 | .13 | .23 | **.65** | .09 | .12 | .24 | -.01 | -.00 |
| 5 | .25 | .16 | .17 | **.70** | .13 | .11 | .05 | .01 |
| 6 | .18 | .20 | .13 | **.73** | .12 | .08 | .11 | .09 |
| 7 | .22 | .04 | .14 | **.72** | .10 | .07 | .09 | .07 |
| 18 | .34 | .26 | .11 | .17 | **.49** | .04 | .09 | -.02 |
| 19 | .20 | .13 | .12 | .07 | **.71** | .03 | .06 | .02 |
| 20 | .40 | .24 | .10 | .19 | **.49** | .09 | .10 | .04 |
| 21 | .27 | .09 | .08 | .10 | **.64** | .09 | .10 | .09 |
| 2 | .27 | .12 | .20 | .08 | .11 | **.35** | .15 | .07 |
| 9 | .15 | .07 | .35 | .09 | .08 | **.63** | .07 | .06 |
| 11 | .15 | .10 | .17 | .08 | .03 | **.60** | .07 | .05 |
| 15 | .06 | .13 | .07 | .07 | .04 | .00 | **.55** | .01 |
| 16 | .07 | .07 | -.09 | .09 | .05 | .09 | **.51** | .07 |
| 17 | .04 | -.04 | .01 | .00 | .07 | .04 | **.63** | .02 |
| 22 | .03 | .41 | -.10 | .06 | -.00 | .05 | .00 | **.42** |
| 23 | .15 | .25 | .14 | .06 | .10 | .07 | .11 | **.55** |
| 24 | .08 | .33 | .02 | .06 | .02 | .04 | .06 | **.67** |

| Factor | Institutional Effectiveness Scale | |
|---|---|---|
| 1 | 9 | Organizational Health |
| 2 | 2 | Student Academic Development |
| | 8 | Ability to Acquire Resources |
| 3 | 4 | Student Personal Development |
| 4 | 1 | Student Educational Satisfaction |
| 5 | 5 | Faculty & Administrator Employment Satisfaction |
| 6 | 7 | System Openness & Community Interaction |
| 7 | 3 | Student Career Development |
| 8 | 6 | Professional Development & Quality of Faculty |

## Table 26B

### Factor Analysis of Section 8 Items
### Institution Level

| | Factor | | | | | | |
|---|---|---|---|---|---|---|---|
| Item | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12 | **.76** | .18 | .26 | .17 | .15 | .14 | -.08 |
| 13 | **.65** | .04 | .22 | .15 | -.14 | .00 | -.11 |
| 14 | **.68** | .11 | .21 | .03 | .10 | .10 | -.01 |
| 22 | **.80** | -.00 | -.32 | -.03 | .00 | .03 | -.02 |
| 23 | **.61** | .21 | .13 | .07 | .16 | .04 | -.08 |
| 24 | **.81** | .12 | -.16 | -.02 | .04 | .09 | -.03 |
| 3 | **.47** | .27 | .08 | .21 | -.09 | .04 | .19 |
| 4 | **.75** | .18 | -.15 | .17 | -.08 | -.01 | .12 |
| 25 | **.64** | .07 | .12 | .22 | .11 | .18 | .06 |
| 26 | -.02 | .33 | **.69** | .06 | .07 | .21 | -.05 |
| 27 | .25 | **.69** | .26 | .09 | .10 | .13 | .01 |
| 28 | .16 | **.75** | .11 | .28 | .09 | .23 | .08 |
| 29 | .15 | **.77** | .21 | .20 | .09 | .12 | .02 |
| 30 | .15 | **.76** | .16 | .23 | .09 | .18 | -.01 |
| 31 | .22 | **.55** | -.00 | .12 | -.07 | .08 | .20 |
| 32 | .09 | **.58** | .08 | .05 | -.01 | .17 | .22 |
| 1 | .06 | .21 | **.84** | .17 | -.06 | .11 | .11 |
| 8 | .04 | .09 | **.68** | .19 | -.14 | .09 | .36 |
| 10 | .17 | .15 | **.79** | .21 | -.12 | .07 | .19 |
| 18 | .32 | .31 | .18 | **.62** | .19 | .20 | .01 |
| 19 | .17 | .22 | .29 | **.73** | .19 | .09 | -.04 |
| 20 | .29 | .40 | .14 | **.61** | .19 | .27 | .08 |
| 21 | .17 | .33 | .19 | **.66** | .29 | .08 | .06 |
| 15 | .12 | .07 | .04 | .13 | **.74** | .10 | .07 |
| 16 | .10 | .11 | -.22 | .13 | **.70** | .18 | -.04 |
| 17 | -.08 | .01 | -.05 | .15 | **.85** | .01 | .04 |
| 5 | .12 | .38 | .20 | .19 | .10 | **.74** | .14 |
| 6 | .36 | .25 | .18 | .15 | .15 | **.71** | .05 |
| 7 | .06 | .30 | .12 | .11 | .14 | **.77** | .18 |
| 2 | -.02 | **.35** | .23 | .04 | .24 | .04 | .28 |
| 9 | -.05 | .19 | .36 | .05 | .06 | .10 | **.70** |
| 11 | -.04 | .13 | .06 | -.03 | .03 | .12 | **.70** |

| Factor | | Institutional Effectiveness Scale |
|---|---|---|
| 1 | 2 | Student Academic Development |
| | 6 | Professional Development & Quality of Faculty |
| | 8 | Ability to Acquire Resources |
| 2 | 9 | Organizational Health |
| 3 | 4 | Student Personal Development |
| 4 | 5 | Faculty & Administrator Employment Satisfaction |
| 5 | 3 | Student Career Development |
| 6 | 1 | Student Educational Satisfaction |
| 7 | 7 | System Openness & Community Interaction |

Group Differences

As previously noted, one means of investigating an instrument's construct validity is through the study of group differences. This form of assessment is appropriate if our understanding of a construct leads us to expect that members of two groups should respond differently on the questions that operationalize the construct. Organizational Studies staff have completed two studies that utilize the national study data to compare the responses of members of different groups. In addition, an analysis was also done that allows us to compare the scores of public and private institutions on the items in the instrument. We shall begin with the last set.

The data in Table 27 report the mean and standard deviation for all items in the instrument for public and private institutions separately. Because of the large sample sizes, when item means differ by more than .15 on the 5-point scale items, that difference is generally significant at $p<.05$. Differences greater than .20 are generally sigificant at $p<.01$. Comparison of the means in Table 27 indicate that the groups significantly differ on most of the items in the instrument.

Differences between public and private groups generally conform to expectations that follow from our stereotypes. For example, concentrating on the items in Section 4, we see that public institutions are generally perceived by their members as having more administrators performing specialized functions; employing more formal policies; having less of a special identity; having programs that reflect the mission, and so on. The items in

Table 27
Means and Standard Deviations for Each Item
by Institutional Control
Institution Level (n=334)

| Section | Item | Scale | Public (n=127) Mean | Public (n=127) Std. Dev. | Private (n=207) Mean | Private (n=207) Std.Dev. |
|---|---|---|---|---|---|---|
| 1 | 1 | SD-SA* | 3.0 | .49 | 3.0 | .41 |
| | 2 | SD-SA | 3.6 | .50 | 3.3 | .37 |
| | 3 | SD-SA | 3.4 | .33 | 3.4 | .28 |
| | 4 | SD-SA | 2.6 | .37 | 2.8 | .36 |
| | 5 | SD-SA | 3.5 | .53 | 3.8 | .41 |
| | 6 | SD-SA | 4.0 | .53 | 4.3 | .31 |
| | 7 | SD-SA | 2.8 | .61 | 2.4 | .53 |
| | 8 | SD-SA | 4.3 | .41 | 3.8 | .49 |
| 2 | 1 | % yes | 46.0 | 38.85 | 63.8 | 34.73 |
| | 2A | % yes | 36.8 | 37.37 | 24.4 | 27.14 |
| | 2B | % yes | 40.6 | 35.70 | 36.7 | 31.75 |
| | 2C | % yes | 54.7 | 34.53 | 53.1 | 34.21 |
| | 2D | % yes | 57.9 | 40.14 | 72.7 | 33.42 |
| | 3 | SD-SA | 3.1 | .70 | 3.0 | .56 |
| | 4 | SD-SA | 2.4 | .76 | 2.6 | .85 |
| | 5 | SD-SA | 3.2 | .69 | 3.4 | .50 |
| | 6 | SD-SA | 2.8 | .93 | 2.5 | .70 |
| 3 | 1 | % yes | 64.2 | 28.83 | 38.0 | 28.26 |
| | 2A | % yes | 44.0 | 27.23 | 26.0 | 28.79 |
| | 2B | % yes | 62.0 | 28.55 | 38.9 | 34.05 |
| | 2C | % yes | 80.4 | 27.13 | 61.1 | 34.43 |
| | 2D | % yes | 84.4 | 21.64 | 70.6 | 34.32 |
| | 3 | SD-SA | 3.4 | .55 | 3.2 | .66 |
| | 4 | SD-SA | 2.8 | .70 | 2.7 | .91 |
| | 5 | SD-SA | 2.8 | .59 | 3.3 | .62 |
| | 6 | SD-SA | 2.2 | .53 | 2.5 | .77 |
| 4 | 1 | SD-SA | 3.4 | .58 | 3.3 | .53 |
| | 2 | SD-SA | 3.6 | .42 | 3.4 | .44 |
| | 3 | SD-SA | 3.1 | .75 | 3.4 | .61 |
| | 4 | SD-SA | 3.8 | .49 | 4.0 | .51 |
| | 5 | SD-SA | 4.0 | .35 | 4.0 | .35 |
| | 6 | SD-SA | 3.3 | .52 | 3.6 | .50 |
| | 7 | SD-SA | 3.6 | .39 | 3.8 | .35 |
| | 8 | SD-SA | 3.1 | .43 | 3.0 | .44 |
| | 9 | SD-SA | 3.5 | .50 | 3.5 | .46 |
| | 10 | SD-SA | 2.7 | .60 | 2.5 | .65 |
| | 11 | SD-SA | 3.5 | .41 | 3.6 | .43 |
| | 12 | SD-SA | 2.7 | .47 | 2.6 | .44 |
| | 13 | SD-SA | 3.1 | .52 | 2.9 | .51 |
| | 14 | SD-SA | 2.4 | .66 | 2.4 | .67 |
| | 15 | SD-SA | 3.0 | .57 | 3.1 | .53 |
| | 16 | SD-SA | 2.9 | .56 | 2.7 | .52 |
| | 17 | SD-SA | 3.2 | .43 | 2.9 | .44 |

*SD-SA = strongly disagree to strongly agree where strongly disagree=1, disagree=2, neither=3, agree=4, strongly agree=5.

| Section | Item | Scale | Public (n=127) Mean | Public (n=127) Std. Dev. | Private (n=207) Mean | Private (n=207) Std.Dev. |
|---|---|---|---|---|---|---|
| 4 | 18 | SD-SA* | 3.2 | .52 | 3.4 | .53 |
| | 19 | SD-SA | 3.4 | .42 | 3.4 | .39 |
| | 20 | SD-SA | 2.9 | .52 | 2.6 | .55 |
| | 21 | SD-SA | 3.2 | .52 | 2.7 | .46 |
| | 22 | SD-SA | 2.9 | .85 | 2.9 | .88 |
| 5 | 1A | 0-100 pts. | 36.3 | 15.91 | 56.6 | 14.91 |
| | 1B | 0-100 pts. | 18.3 | 8.86 | 19.0 | 9.15 |
| | 1C | 0-100 pts. | 25.5 | 12.38 | 13.5 | 8.94 |
| | 1D | 0-100 pts. | 19.8 | 9.50 | 10.9 | 7.14 |
| | 2A | 0-100 pts. | 14.8 | 13.97 | 18.4 | 13.94 |
| | 2B | 0-100 pts. | 22.0 | 13.05 | 21.9 | 14.58 |
| | 2C | 0-100 pts. | 44.4 | 14.92 | 43.3 | 13.85 |
| | 2D | 0-100 pts. | 18.9 | 11.40 | 16.3 | 11.13 |
| | 3A | 0-100 pts. | 33.3 | 14.33 | 51.9 | 15.25 |
| | 3B | 0-100 pts. | 17.8 | 10.31 | 16.8 | 10.51 |
| | 3C | 0-100 pts. | 24.4 | 11.91 | 12.7 | 7.25 |
| | 3D | 0-100 pts. | 24.6 | 8.16 | 18.6 | 7.64 |
| | 4A | 0-100 pts. | 26.2 | 11.48 | 37.1 | 12.23 |
| | 4B | 0-100 pts. | 25.8 | 11.64 | 22.3 | 9.82 |
| | 4C | 0-100 pts. | 26.0 | 12.14 | 24.0 | 9.66 |
| | 4D | 0-100 pts. | 22.0 | 8.89 | 16.7 | 8.11 |
| 6 | 1 | SD-SA | 3.4 | .55 | 3.5 | .48 |
| | 2 | SD-SA | 3.1 | .48 | 3.1 | .51 |
| | 3 | SD-SA | 3.6 | .48 | 3.8 | .33 |
| | 4 | SD-SA | 2.4 | .39 | 2.6 | .36 |
| | 5 | SD-SA | 2.7 | .46 | 2.8 | .50 |
| | 6 | SD-SA | 2.9 | .56 | 2.8 | .61 |
| | 7 | SD-SA | 3.8 | .43 | 3.8 | .39 |
| | 8 | SD-SA | 3.6 | .38 | 3.7 | .36 |
| | 9 | SD-SA | 3.3 | .45 | 3.3 | .44 |
| | 10 | SD-SA | 3.4 | .46 | 3.5 | .45 |
| | 11 | SD-SA | 2.9 | .49 | 2.9 | .45 |
| | 12 | SD-SA | 3.2 | .56 | 3.4 | .57 |
| | 13 | SD-SA | 3.8 | .41 | 3.9 | .42 |
| | 14 | SD-SA | 2.9 | .44 | 3.0 | .39 |
| 7 | 1 | SD-SA | 3.2 | .50 | 3.1 | .42 |
| | 2 | SD-SA | 2.5 | .53 | 2.5 | .52 |
| | 3 | SD-SA | 3.0 | .45 | 3.2 | .46 |
| | 4 | SD-SA | 3.4 | .41 | 3.5 | .38 |
| | 5 | SD-SA | 2.5 | .43 | 2.5 | .40 |
| | 6 | SD-SA | 2.8 | .49 | 2.6 | .43 |
| | 7 | SD-SA | 2.9 | .42 | 2.7 | .43 |
| | 8 | SD-SA | 2.6 | .50 | 2.5 | .45 |
| | 9 | SD-SA | 3.1 | .46 | 3.3 | .44 |
| | 10 | SD-SA | 3.5 | .36 | 3.7 | .35 |
| | 11 | SD-SA | 2.1 | .42 | 1.9 | .35 |
| | 12 | SD-SA | 3.0 | .38 | 3.0 | .41 |

*SD-SA = strongly disagree to strongly agree where strongly disagree=1, disagree=2, neither=3, agree=4, strongly agree=5.

Section 4 on which public and private institutions do not significantly differ include: programs reflecting the mission of the institution; decision centralization; innovative activity; morale; and cutbacks.

As previously noted, Organizational Studies staff completed two studies pertaining to the assessment of group differences. The study by Krakower and Zammuto (1983) was concerned with assessing whether respondents in institutions experiencing significantly different enrollment and revenue conditions viewed their institutions differently. The study examines if-and-how differences in institutional revenue and enrollment conditions are related to item scores in Sections 1, 4, 6, 7, and 8. The results of the study generally reflect the kinds of differences on the IPS that one would expect to find as a function of differences in enrollment and revenue conditions.

The study by Chaffee and Krakower (1984) was concerned with assessing how managers in higher education organizations differed in their perceptions of institutional performance as a function of resource predictability. The results of the study suggest either that many of the prevailing assumptions about how resource predictability should be related to responses on the IPS are incorrect; and/or the IPS is doing a poor job of measuring the constructs examined.

Changes Over Occasions

No effort has been made to test how performance on the IPS changes over time. Data has been collected from eight

institutions that could be used to examine how institution scores might change in a little more than one year. However, this discussion will be postponed in favor of including it as a part of the assessment concerned with evaluating the instrument's reliability.

## Conclusion

The results of the preceding set of analyses generally suggest that the IPS is measuring the constructs or dimensions it purports to assess. Specifically, the results of the item analyses, internal consistency analyses, and factor analyses support the instrument's claims with respect to Sections 1, 2, 3, 4, 5, and 6. The construct validity of the instrument appears weakest with respect to Sections 7 and 8.

The studies comparing different groups' performance on the IPS lead to generally positive conclusions.

## Concurrent Validity

As previously noted, concurrent validity is concerned with the relationship between test scores and an accepted criterion of performance on the dimensions the test purports to assess. The reason for constructing a test for which one already has data is that the test saves time and expense, yet yields the same results as the criterion measure (Ebel, 1972; Cronbach and Meehl, 1967). This form of validity is usually evaluated in terms of the correlation between the test and criterion measure.

Unfortunately, no criterion data are available with respect to the IPS that might be used to estimate a concurrent validity index. However, ethnographic data are available for eight institutions that used the IPS in an NCHEMS case study research project. The purpose of the case study research was to investigate the nature and impact of administrative strategy on various aspects of institutional performance. A purpose not altogether unrelated to the IPS.

It would be inappropriate to judge the concurrent validity of the IPS solely on the extent to which it mirrored what was reported in the ethnographies. However, it seems reasonable to expect that the IPS should reflect and support the findings of the case studies--especially in view of the fact that the results of the case studies are based, at least in part, on IPS data.

To the extent it is appropriate to compare the IPS results and ethnography for this institution, a number of similiarities and differences are apparent. The IPS data generally support what is reported in the ethnography. However, the IPS fails to

capture or reflect the interrelationships between the dimensions assessed. This is not surprising in view of the modular nature of the instrument--that is, it is concerned with assessing single, relatively unique dimensions of performance. The IPS is certainly not alone doing this. However, the comparison reveals that its modular nature may obscure, and/or be insensitive to important institutional dynamics.

Second, if we assume the ethnography reflects the truth then, at least with respect to this particular institution, the IPS does a fairly poor job of measuring two dimensions--culture and morale. That is, it fails to adequately capture or depict the actual nature of these conditions. Third, the IPS appears to be insensitive to a number of factors that appear to have a significant impact on this institution's performance--the disorganized nature of its curriculum, and the nature of decision making.

## Reliability

Common synonyms for reliability include dependability, consistency, and stability. Reliability problems are concerned with "the accuracy with which a measuring instrument, e.g., a test, measures whatever it measures (Magnusson, 1967, p. 60)." Formally stated, the evaluation of the reliability reduces to determining how much of the variation in a set of test scores is due to certain systematic differences among the individuals in the group and how much to other sources of variation that are considered, for particular purposes, errors of measurement.

There are numerous ways in which we can assess a test's reliability. One entails administering a test to the same group of individuals on two different occasions and correlating their responses. This correlation is called a reliability coefficient, and is formally refered to as "test-retest" reliability.

A second entails examining the relationship between parallel forms of the same test--where these forms are extracted from the instrument in question. We often rely on this procedure where retesting is not feasible because 1) people who take part in testing are affected by the first testing procedure; and/or 2) individuals may have changed on the dimensions in question between testings. Reliability estimates resulting from this form of assessment are referred to as internal consistency coefficients.

A third type of reliability that is pertinent when we are interested in estimating the agreement between sets of ratings, test scores or other measures is called rater reliability. This form of reliability is estimated by employing a repeated measures

analysis of variance model to obtain estimates for the true and total score variance in the set of ratings (Ebel, 1967; Winer, 1962). The reliability coefficient produced by this form of analysis is referred to as an intraclass correlation. The procedure provides an estimate of the degree of agreement or similarity between judges' ratings of an object or set of objects (e.g., persons, institutions).[1]

Test-Retest Reliability

No adequate data are available to assess the test-retest reliability of the IPS. The IPS was administered twice in the case study institutions. However, responses on both administrations were anonymous, obviating assessment at the individual level. Basing an estimate on institution mean scores would, at least for the case study institutions, be inappropriate for two reasons.

First, there were significantly different numbers of respondents in each of the two administrations. The first administration generally involved less than a dozen respondents of varying backgrounds--faculty, administrators, and trustees.

[1]An illustration of what the coefficient reflects within the current context may be useful. If everyone in institution A rates an item a "5," and everyone in institution B rates the same item a "1," the intraclass correlation (which is based on the ratings of judges in both institutions) will be 1.0. Conversely, if each judge in each institution rates the item differently, then the intraclass correlation coefficient will be zero--even though, for example, the mean for the item may be the same in both institutions. The intraclass correlation provides a measure of within-class or within-institution agreement.

Institutional means based on so few cases are likely to be highly unreliable.

Second, more than one year elapsed between the first and second administration of the IPS. Hence, observed differences in scores may be due to actual changes in institutional conditions.

## Internal Consistency Reliability

As previously noted, five of the eight sections of the IPS (Sections 1, 2, 3, 4, and 6) include questions that are intended to measure relatively unique dimensions. To estimate this form of reliability for these sections would be inappropriate. The questions in Sections 5, 7, and 8, measured predefined scales. Discussuion of the results of analyses pertinent to these sections are included in the section on construct validity.

## Rater Reliability

The current version of the IPS Executive Report graphs the mean rating of each item by each study group. Item response frequencies are not reported. Reporting scores in this format assumes that group members' scores may be meaningfully aggregated. The truth of this assumption may be tested by estimating the intraclass correlation coefficient for each item of the instrument.

The procedure employed to carry out this analysis was taken from an article by Robert Ebel (1967). Estimates of the intraclass correlations were obtained by employing the following formula:

$$r = \frac{MS - M}{MS + (k_{o-1})M}$$

where MS is the mean square for institutions
M is the error including the between-raters variance

and $k_o$ is the average number of raters per institution

$$k_o = \frac{1}{n-1} [\text{sum of } k - (\text{sum of } k2 \,/\, \text{sum of } k)]$$

where n= the number of institutions
k= number of raters per institution

The results of the analyses for all items except those in Section 5 are reported in Table 28. The items in Section 5 were excluded from this analysis because respondents were required to assign four different scores to an item. Estimated coefficients range between 0 and .60. However, more than 80% of the coefficients are less than .30. The generally low nature of these estimates suggest that it is inappropriate to believe that group means fairly reflect the perceptions of individual group members. In other words, employing group means to draw conclusions about perceptions of institutional performance, or to make generalizations about conditions, may lead to spurious conclusions. This suggests that 1) the IPS must include frequency data for each group on each item--see, for example, Figure 1; and, 2) that the "Executive Report" be rewritten to address this problem.

Table 28
Reliability of Individual Ratings

| Section | Item | Administrators n=1321 | Faculty n=1158 | Trustees n=927 | Total n=3406 |
|---|---|---|---|---|---|
| 1 | 1 | .07 | .06 | .00 | .04 |
| | 2 | .04 | .08 | .03 | .05 |
| | 3 | .00 | .01 | .00 | .01 |
| | 4 | .04 | .02 | .10 | .03 |
| | 5 | .12 | .14 | .10 | .13 |
| | 6 | .17 | .15 | .14 | .16 |
| | 7 | .22 | .16 | .18 | .17 |
| | 8 | .23 | .14 | .22 | .17 |
| 2 | 1 | .60 | .55 | .38 | .49 |
| | 3 | .19 | .08 | .17 | .14 |
| | 4 | .31 | .28 | .34 | .28 |
| | 5 | .14 | .14 | .10 | .11 |
| | 6 | .31 | .25 | .28 | .28 |
| 3 | 1 | .31 | .29 | .29 | .29 |
| | 3 | .14 | .12 | .09 | .09 |
| | 4 | .28 | .29 | .17 | .22 |
| | 5 | .00 | .12 | .00 | .09 |
| | 6 | .32 | .11 | .24 | .19 |
| 4 | 1 | .17 | .16 | .10 | .14 |
| | 2 | .14 | .11 | .08 | .10 |
| | 3 | .30 | .31 | .18 | .26 |
| | 4 | .28 | .29 | .23 | .24 |
| | 5 | .17 | .18 | .13 | .14 |
| | 6 | .24 | .23 | .14 | .19 |
| | 7 | .19 | .12 | .06 | .11 |
| | 8 | .06 | .06 | .06 | .07 |
| | 9 | .12 | .11 | .06 | .08 |
| | 10 | .25 | .22 | .22 | .18 |
| | 11 | .13 | .13 | .12 | .10 |
| | 12 | .16 | .07 | .14 | .10 |
| | 13 | .21 | .15 | .16 | .13 |
| | 14 | .35 | .38 | .26 | .30 |
| | 15 | .23 | .23 | .20 | .16 |
| | 16 | .23 | .07 | .12 | .12 |
| | 17 | .15 | .06 | .14 | .11 |
| | 18 | .20 | .23 | .14 | .14 |
| | 19 | .10 | .16 | .07 | .06 |
| | 20 | .22 | .25 | .21 | .17 |
| | 21 | .25 | .12 | .13 | .16 |
| | 22 | .50 | .55 | .37 | .45 |
| 6 | 1 | .24 | .16 | .13 | .18 |
| | 2 | .21 | .12 | .06 | .15 |
| | 3 | .19 | .10 | .10 | .10 |
| | 4 | .09 | .13 | .10 | .06 |
| | 5 | .18 | .20 | .09 | .13 |
| | 6 | .24 | .28 | .21 | .21 |

| Section | Item | Administrators n=1321 | Faculty n=1158 | Trustees n=927 | Total n=3406 |
|---|---|---|---|---|---|
| 6 | 7 | .06 | .20 | .14 | .11 |
| | 8 | .16 | .05 | .10 | .08 |
| | 9 | .16 | .19 | .11 | .14 |
| | 10 | .10 | .14 | .16 | .10 |
| | 11 | .14 | .17 | .10 | .10 |
| | 12 | .22 | .23 | .18 | .18 |
| | 13 | .19 | .12 | .13 | .11 |
| | 14 | .07 | .08 | .04 | .05 |
| 7 | 1 | .08 | .10 | .04 | .07 |
| | 2 | .14 | .11 | .10 | .10 |
| | 3 | .14 | .11 | .06 | .08 |
| | 4 | .08 | .10 | .02 | .05 |
| | 5 | .11 | .12 | .05 | .05 |
| | 6 | .06 | .13 | .12 | .06 |
| | 7 | .08 | .08 | .07 | .06 |
| | 8 | .12 | .08 | .06 | .07 |
| | 9 | .11 | .18 | .04 | .08 |
| | 10 | .02 | .08 | .08 | .04 |
| | 11 | .07 | .11 | .10 | .05 |
| | 12 | .03 | .05 | .00 | .04 |
| 8 | 1 | .29 | .22 | .15 | .22 |
| | 2 | .12 | .14 | .01 | .09 |
| | 3 | .31 | .34 | .38 | .29 |
| | 4 | .33 | .19 | .31 | .24 |
| | 5 | .18 | .17 | .15 | .12 |
| | 6 | .25 | .15 | .19 | .15 |
| | 7 | .11 | .12 | .08 | .09 |
| | 8 | .27 | .22 | .15 | .20 |
| | 9 | .14 | .08 | .11 | .10 |
| | 10 | .24 | .19 | .15 | .18 |
| | 11 | .17 | .14 | .09 | .13 |
| | 12 | .42 | .33 | .34 | .35 |
| | 13 | .38 | .26 | .29 | .30 |
| | 14 | .19 | .11 | .04 | .13 |
| | 15 | .27 | .30 | .19 | .24 |
| | 16 | .21 | .25 | .12 | .19 |
| | 17 | .23 | .23 | .25 | .23 |
| | 18 | .16 | .19 | .18 | .14 |
| | 19 | .13 | .21 | .20 | .16 |
| | 20 | .14 | .22 | .26 | .15 |
| | 21 | .19 | .14 | .13 | .14 |
| | 22 | .40 | .39 | .19 | .33 |
| | 23 | .18 | .09 | .14 | .10 |
| | 24 | .26 | .24 | .19 | .22 |
| | 25 | .37 | .33 | .29 | .33 |
| | 26 | .38 | .30 | .26 | .30 |
| | 27 | .08 | .13 | .04 | .08 |
| | 28 | .18 | .23 | .16 | .16 |
| | 29 | .14 | .18 | .07 | .11 |
| | 30 | .18 | .22 | .17 | .16 |
| | 31 | .05 | .09 | .04 | .06 |
| | 32 | .06 | .09 | .00 | .05 |

Figure 1

Example Item Frequency Data

SECTION 1

| Item | Group | Response in percent 1 | 2 | 3 | 4 | 5 | Mean | Std Dev | N |
|---|---|---|---|---|---|---|---|---|---|
| 1 | A | .0 | 40.0 | 20.0 | 40.0 | .0 | 3.0 | 1.0 | 5 |
| | B | .0 | 60.0 | 40.0 | .0 | .0 | 2.4 | .5 | 5 |
| | C | 12.5 | 25.0 | .0 | 50.0 | 12.5 | 3.2 | 1.4 | 8 |
| | D | 16.7 | 38.9 | 16.7 | 16.7 | 11.1 | 2.7 | 1.3 | 18 |
| | E | 11.1 | 38.9 | 5.6 | 33.3 | 11.1 | 2.9 | 1.3 | 18 |
| | F | .0 | 42.9 | 14.3 | 42.9 | .0 | 3.0 | 1.0 | 7 |
| | X | 9.8 | 39.3 | 13.1 | 29.5 | 8.2 | 2.9 | 1.2 | 61 |
| 2 | A | .0 | 66.7 | 16.7 | 16.7 | .0 | 2.5 | .8 | 6 |
| | B | .0 | 40.0 | 20.0 | 40.0 | .0 | 3.0 | 1.0 | 5 |
| | C | .0 | 25.0 | 12.5 | 62.5 | .0 | 3.4 | .9 | 8 |
| | D | .0 | 33.3 | 16.7 | 33.3 | 16.7 | 3.3 | 1.1 | 18 |
| | E | 5.6 | 38.9 | 5.6 | 44.4 | 5.6 | 3.1 | 1.2 | 18 |
| | F | .0 | 42.9 | .0 | 57.1 | .0 | 3.1 | 1.1 | 7 |
| | X | 1.6 | 38.7 | 11.3 | 41.9 | 6.5 | 3.1 | 1.1 | 62 |
| 3 | A | .0 | 16.7 | 16.7 | 66.7 | .0 | 3.5 | .8 | 6 |
| | B | .0 | 20.0 | 20.0 | 60.0 | .0 | 3.4 | .9 | 5 |
| | C | .0 | .0 | 25.0 | 50.0 | 25.0 | 4.0 | .8 | 8 |
| | D | 5.6 | 22.2 | 16.7 | 38.9 | 16.7 | 3.4 | 1.2 | 18 |
| | E | 5.6 | 22.2 | 33.3 | 33.3 | 5.6 | 3.1 | 1.0 | 18 |
| | F | .0 | .0 | 28.6 | 57.1 | 14.3 | 3.9 | .7 | 7 |
| | X | 3.2 | 16.1 | 24.2 | 45.2 | 11.3 | 3.5 | 1.0 | 62 |
| 4 | A | .0 | 50.0 | 33.3 | 16.7 | .0 | 2.7 | .8 | 6 |
| | B | .0 | 40.0 | 20.0 | 40.0 | .0 | 3.0 | 1.0 | 5 |
| | C | 12.5 | 62.5 | 25.0 | .0 | .0 | 2.1 | .6 | 8 |
| | D | 11.1 | 66.7 | 16.7 | 5.6 | .0 | 2.2 | .7 | 18 |
| | E | 5.6 | 44.4 | 22.2 | 16.7 | 11.1 | 2.8 | 1.2 | 18 |
| | F | .0 | 71.4 | .0 | 28.6 | .0 | 2.6 | 1.0 | 7 |
| | X | 6.5 | 56.5 | 19.4 | 14.5 | 3.2 | 2.5 | .9 | 62 |

Key: A=Trustees
B=Executive Administrators
C=Operations Administrators
D=Liberal Arts & Sci Faculty
E=Professional Sch Faculty
F=Phys&Biol Sci Faculty
X=All Respondents.

## Conclusion

In general, the Institutional Performance Survey appears to do a reasonably good job of assessing most of the constructs or dimensions it purports to measure. Its most serious problems include the 1) use of ambiguous language; 2) weak assessment of two of the six scales in Section 7 (Bureaucratic Allocation, and Political Allocation), and probably three of the nine scales in Section 8 (Student Academic Development, Professional Development & Quality of the Faculty, and Ability to Acquire Resources); 3) lack of a "Don't Know" response category in the questionnaire; and 4) lack of item-response frequencies in the Executive Report. It would seem that all of these problems can be easily remedied.

In considering the overall utility of the instrument two factors appear to be critical. First, it seems that the best and most appropriate use of the IPS is to employ it as a means of <u>beginning</u> an institutional self-study. That is, the IPS appears to do a fairly good job of identifying many institutional strengths and weaknesses. However, failure to seriously investigate 1) what an institution's scores on the dimensions assessed actually mean; and 2) how conditions are related and impact one another--may lead to spurious or inappropriate conclusions.

Second, the most critical factor determining the utility of the IPS is the extent to which participants in the assessment process believe that their efforts will have an impact on institutional conditions. The utility of the instrument is not primarily a function of what it measures or fails to measure.

Rather, its utility is primarily a function of the commitment and expectation of those involved that something positive will actually come from their efforts.

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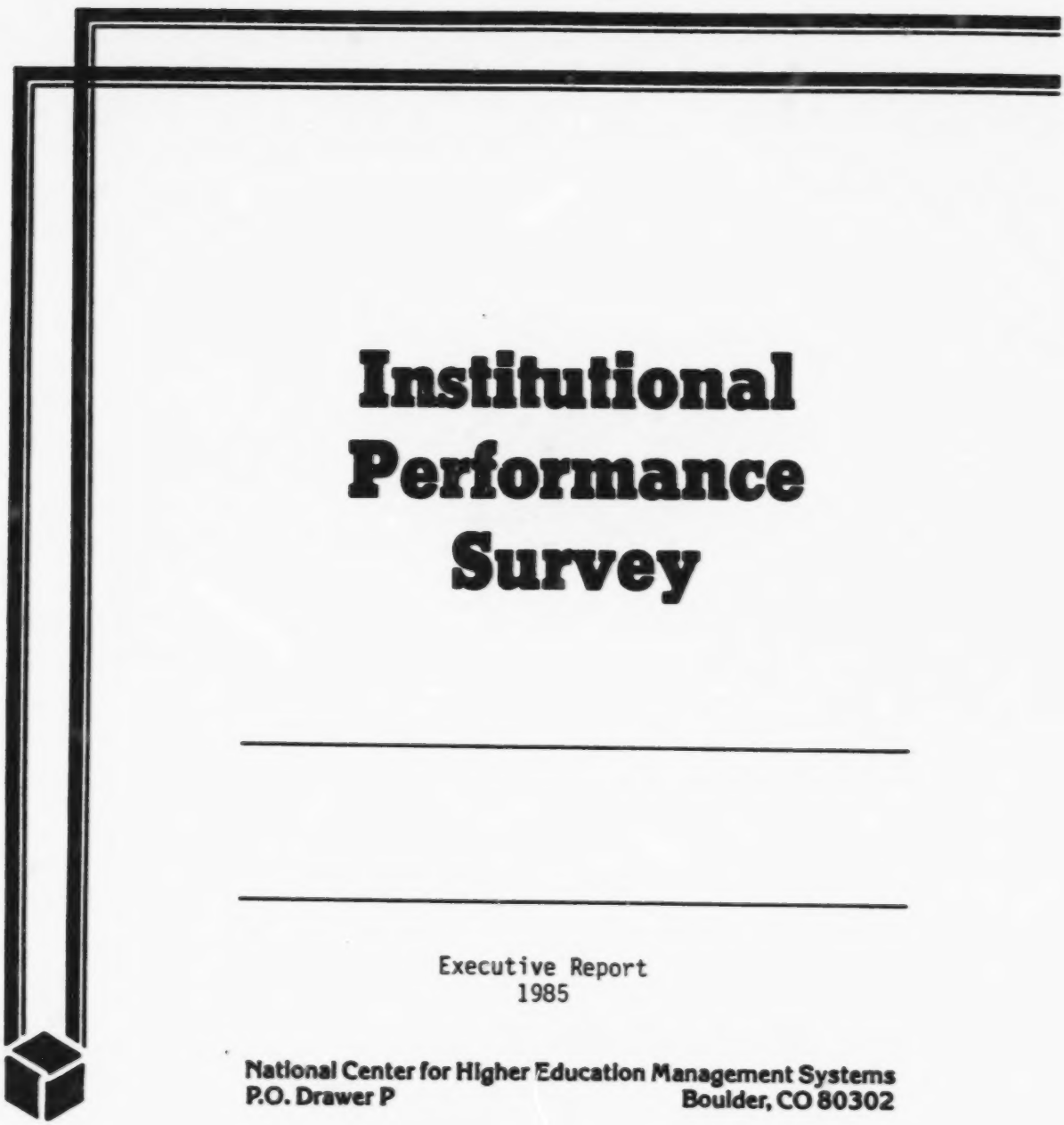
Appendix 1



# Institutional Performance Survey

Executive Report
1985

National Center for Higher Education Management Systems
P.O. Drawer P
Boulder, CO 80302

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Institutional Performance Survey

## Introduction

This report is an administrative digest of the responses made by members of your institution to the NCHEMS Institutional Performance Survey (IPS). It is accompanied by a statistical report that presents more detailed information about responses to the questions. IPS provides administrators with information about institutional characteristics, functioning, and performance, as judged by various members of your institution. The results allow you to compare the perceptions of various groups within your institution, such as faculty, administrators, and trustees. And if you decide to readminister the IPS at a later date, the material contained in the report can be used as baseline information. This will allow you to determine how institutional functioning and performance have changed over time.

## Content and Organization of the Report

This report is divided into eight sections. Section 1 examines the topic of environmental change. It indicates how members of your institution view competition with other institutions, the availability of financial resources, and changes in the supply of potential students. Sections 2 and 3 focus on institutional enrollments and revenues. They examine the extent to which individuals in different groups share beliefs about past enrollment and revenue trends. These sections also consider perceptions about future enrollments and revenues and their potential impact on the institution.

Section 4 provides an overview of institutional functioning and characteristics. It covers such topics as your institution's mission, morale, areas of potential or real conflict, and the credibility of top administrators. Section 5 examines the culture of your institution; it allows you to determine whether leadership style, institutional emphases, and mechanisms for creating institutional cohesion are congruent.

Section 6 provides an overview of institutional strategy. The topics focus on innovation, resistance to change, and planning. Section 7 focuses on the resource-allocation process, and presents respondents' perceptions of how resource-allocation decisions are made. Section 8 provides information about institutional effectiveness on nine different dimensions of performance, such as student academic development, faculty and administrative morale, and organizational health.

## Guidelines for Interpretation

Each section begins with a brief explanation of the items that it covers and includes information that will be useful to you when interpreting the results. All results are reported in histogram form. The first few bars of each histogram indicate the average response for each group participating in the survey. A key identifying the groups is located at the bottom of each page. The last bar presents a summary score for your institution. The summary scores are the average of all individual responses for each item.

You can get the most out of the information presented in this report if you keep a few simple questions in mind as you examine the results. With respect to responses from different groups within your institution, ask yourself, "How varied are these responses?" "Are the responses fairly uniform across groups, or do some groups strongly disagree with others?" Can you think of plausible reasons for such differences? Do these differences indicate possible problems within your institution?

The separate statistical appendix helps you examine specific items or scales included in this general report. The statistical report contains a detailed description of the responses reported here in histogram form. Included are such items as means, standard deviations, and number of responses for each respondent group. It also provides an analysis of variance for each item or scale that indicates the extent to which differences among respondent groups are statistically significant. When group differences for an item are statistically significant ($p \leq .05$), the page following the analysis of variance provides a post hoc means test that identifies the statistically significant group differences. You can use this information to examine more closely those questions that are of particular interest to you.

Before you interpret the results of the survey, it is important that you consider the respondent information on page 4 of this report. The last column of the table provides the response rate for each group, which is the number of questionnaires returned by individuals in a group as a percentage of the number of questionnaires distributed to individuals in that group. The response rate for a group is an important consideration in assessing the extent to which the information contained in this report may or may not be representative of the group as a whole. Generally, the greater the proportion of individuals responding, the greater the confidence you can have that the information contained in the report is an accurate representation of that group's perceptions or beliefs. However, if only a small proportion of individuals from any group responded to the survey, it is useful to ask yourself why this was the case. For example, it might indicate a poor relationship between groups in the institution, such as between the administration and faculty. Carefully examining the respondent information on page 5 helps you set the context within which to study the responses to the items and scales in the survey.

Having considered the respondent information, you should now examine specific items in each section. When you find an item that is of particular interest, the statistical report can help you determine the degree of confidence that can be placed in the replies from one or more respondent groups.

With respect to overall institutional scores, you should compare how your institution scored with how you think it ought to have scored. If there is large divergence between actual and preferred scores, you should ask whether the actual scores reflect transitory conditions in the institution or indicate longer-term problems requiring administrative attention.

## Using the Report

IPS offers you an exceptional opportunity to assess your institution's performance. The executive report and statistical appendix that you have before you provide reliable information about where change might be needed. Although this report is a key element in the assessment process, it cannot itself provide ready-made answers. IPS is not a product but a tool. The ultimate success of the survey depends on the thought this report provokes, the discussion it elicits, and the action it prompts. Because every institution is unique, we cannot present specific recommendations regarding the use and circulation of the report. Nevertheless, we do offer several suggestions.

A large number of individuals in your institution have taken time out from their busy schedules to complete the questionnaire. It is appropriate that you acknowledge their interest and concern in the institution. You can do so by communicating the results to them and including them in discussions about their implications. Some parts of the survey may pinpoint real or potential sources of conflict within your institution. The interests of all concerned are furthered by open discussion of these points. Sidestepping these issues would only defeat the purpose of IPS and, more importantly, reduce the effectiveness of your institution.

IPS can focus campuswide discussion about a variety of issues that relate to institutional effectiveness. Indeed, we suggest that you consider using IPS as the centerpiece for institutional self-study. Not only does IPS raise important issues itself, it also provides a framework within which to orient and place discussion of more specific questions.

The effectiveness of IPS as a self-study tool is enhanced by its many potential applications. For example, IPS can play a useful role in an upcoming accreditation study or in a review of institutional mission. The instrument can also help you understand the implications of a recent or future reorganization of your institution or its administration. If you are contemplating a change in leadership, such as a new president, IPS can help you understand what qualities of leadership would best match your institution. In turn, IPS can help orient the new leader to your institution. Indeed, wherever communication in your institution is important, IPS can help you sort out the perceptions held by different groups and identify real or potential areas of conflict.

Remember that the effectiveness of IPS hinges on the use you make of it. The information contained in this survey is ultimately a reflection of the interest that members of your institution take in its health. Constructive change occurs when you tap that concern and commitment.

Respondent Information

| Groups | No. Questionnaires Distributed | No. Usable Questionnaires Returned | Group Response Rate |
|---|---|---|---|
| Trustees | 0 | 0 | -- |
| Executive-level Administrators | 5 | 4 | 80% |
| Operations-level Administrators | 10 | 7 | 70% |
| Liberal Arts and Science Faculty | 30 | 10 | 33% |
| Professional School Faculty | 10 | 3 | 30% |
| Physical and Biological Science Faculty | 15 | 5 | 33% |
| Totals | 85 | 29 | 34% |

## SECTION 1: Changes in the Institutional Environment

This section assesses how respondents view the institution's environment. They were asked whether it is becoming more or less predictable and benevolent and whether they felt it now holds fewer or greater resources. The items in this section focus on changes in factors related to enrollments and revenues and to competition with other institutions. This information can help you determine whether various groups view your institution's environment in the same way. Major differences among their perceptions can be a source of disagreement.

QUESTION EXPLANATION

1. Enrollment Predictability. Low scores indicate that there is greater uncertainty about future enrollments and that factors affecting enrollments are becoming less predictable.

2. Revenue Predictability. High scores indicate that factors affecting institutional revenues are becoming less predictable, thus increasing uncertainty about future revenues.

3. Competitor Predictability. High scores indicate that competitive actions by other institutions have become more unpredictable, thereby creating higher levels of uncertainty for your institution.

4. Students' Tastes and Preferences. High scores indicate that students' tastes and preferences have become less predictable. This, in turn, may indicate increased difficulty in planning programs to maintain enrollment levels.

5. Intensity of Competition. High scores indicate that respondents perceive the competitive actions of other colleges and universities as affecting your institution in more areas now than in the past, thus creating greater uncertainties for the institution.

6. Enrollment Competition. High scores indicate that competition with other colleges and universities for prospective students is perceived as having increased during the past few years.

7. Supply of Students. High scores reflect the perception that the supply of potential students has grown.

8. Availability of Financial Resources. High scores indicate that respondents perceive greater difficulty in obtaining financial resources.

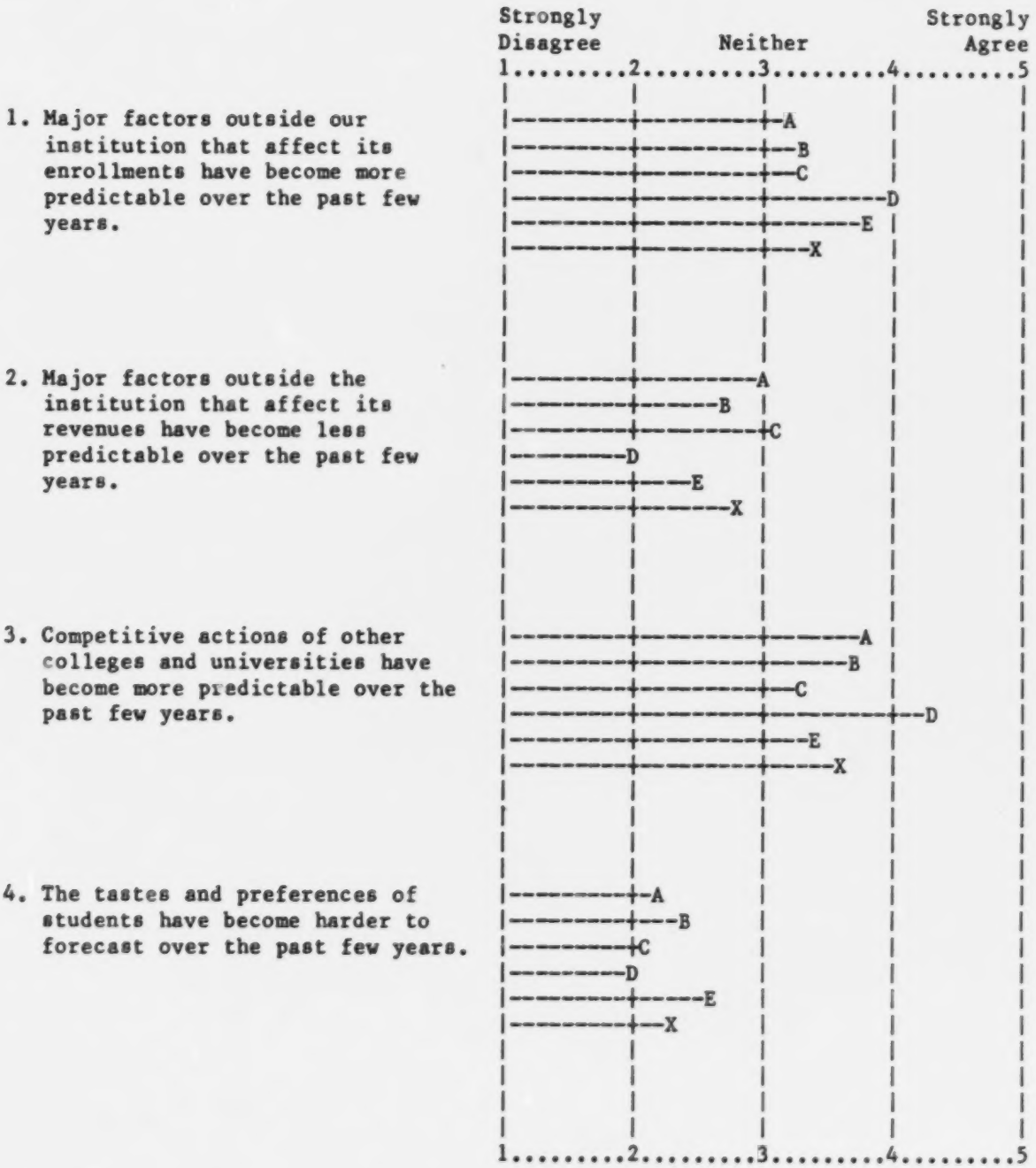
Preliminary analyses at NCHEMS suggest that schools can score quite differently on these items. For example, respondents at public institutions report greater uncertainty and difficulty in obtaining financial resources over the past few years than do respondents at private institutions. In contrast,

respondents at private institutions report more uncertainty about and greater competition for future enrollments than do respondents at public institutions.

Program differences also affect perceptions of environmental change. Respondents are institutions with a heavy investment in liberal arts and science programs report greater uncertainty concerning enrollments and perceive higher levels of competition than do respondents at institutions with a heavy emphasis on professional programs. Institutions offering both types of programs should examine discrepancies in scores among different faculty groups. If there are sizable discrepancies, you should ask whether these groups might perceive inequities within the institution. Such perceptions can be a potential source of conflict.

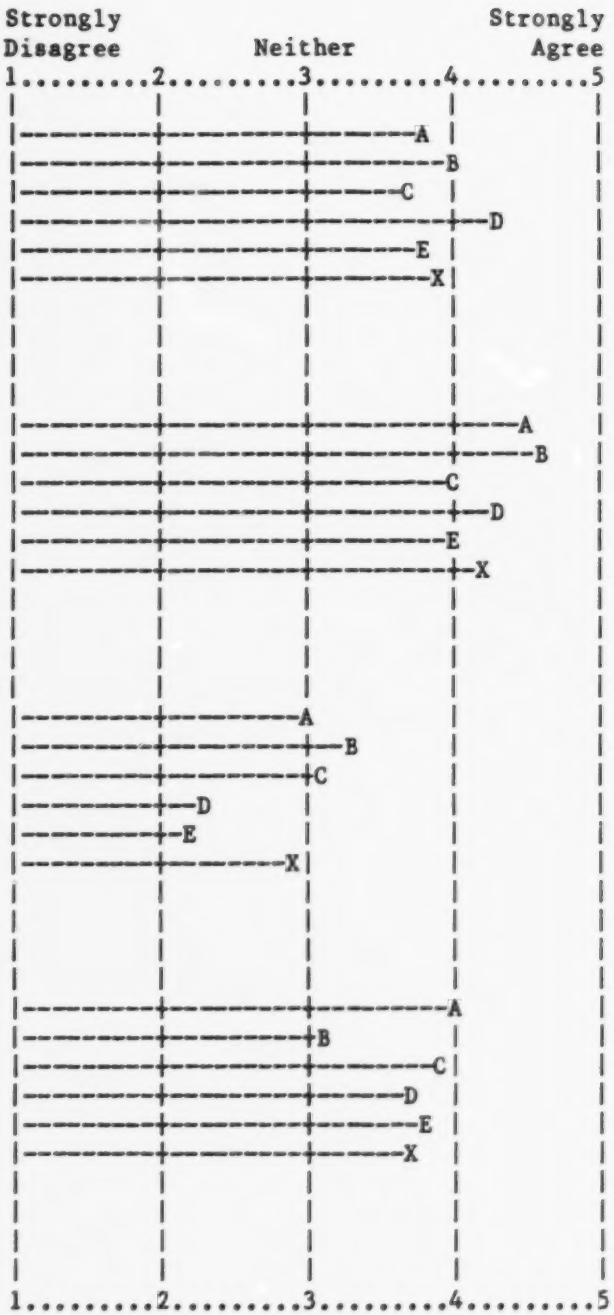
It may also be valuable to examine the extent to which respondents' perceptions are realistic, and whether they seem to be commenting on the past, the future, or both. That is, administrators usually know whether enrollments and revenues have become less predictable or more scarce--but many other respondents answer on the basis of their own perception and less on the basis of fact. How well-informed are respondents? Could more information improve their attitudes or help them find ways to help the institution? Do they have a false sense of security from reliance on past conditions? Do they have an unnecessary sense of panic about future conditions? In short, assessing the implications of responses to this section should provide valuable insights about how secure each set of respondents feels and how informed they are about major strategic elements affecting the institution.

Section 1: External Environment


Strongly Disagree
Neither
Strongly Agree
1. Major factors outside our institution that affect its enrollments have become more predictable over the past few years.
2. Major factors outside the institution that affect its revenues have become less predictable over the past few years.
3. Competitive actions of other colleges and universities have become more predictable over the past few years.
4. The tastes and preferences of students have become harder to forecast over the past few years.
1.....2.....3.....4.....5

Key: A=Executive Administrators
B=Operations Administrators
C=Liberal Arts & Sci Faculty
D=Professional Sch Faculty
E=Phys&Biol Sci Faculty
X=All Respondents

Section 1: External Environment (continued)




Key: A=Executive Administrators
B=Operations Administrators
C=Liberal Arts & Sci Faculty
D=Professional Sch Faculty
E=Phys&Biol Sci Faculty
X=All Respondents

## SECTION 2: Institutional Enrollments

The first question in this section allows you to determine whether consensus exists within and among the respondent groups about institutional enrollments over the last three years. Questions 2 through 5 focus on respondents' projections about future enrollments and their potential impact on the institution.

QUESTION EXPLANATION

1. Consensus. This question asks whether total full-time equivalent enrollments at your institution have increased by more than five percent, have remained stable, or have decreased by more than five percent over the last three years. The ideal response pattern is for all the respondents in each group to select the same reply. When responses within a group are dispersed among the three categories, little consensus may exist among members of that group about the institution's recent enrollment experiences. Similarly, varying response patterns from different respondent groups indicates little agreement within the institution as to its enrollment condition. Substantial disagreement within and among the respondent groups may indicate a source of contention within the institution and a need for better communication about the institution's enrollment condition.

2. Inevitability. High scores indicate that respondents predict declining enrollments to be inevitable in the coming year. Conversely, low scores reflect the perception that declining enrollments are not necessarily a part of the institution's near future.

3. Administrative Control. High scores indicate that respondents feel the institution can now act to avoid the possibility of declining enrollments. Low scores tend to indicate a belief that future enrollments are largely controlled by factors external to the institution.

4. Duration. Low scores indicate a belief that an enrollment decline in the next year would be a short-term problem. High scores suggest that a near-term enrollment decline would reflect a more extended trend of declining enrollments.

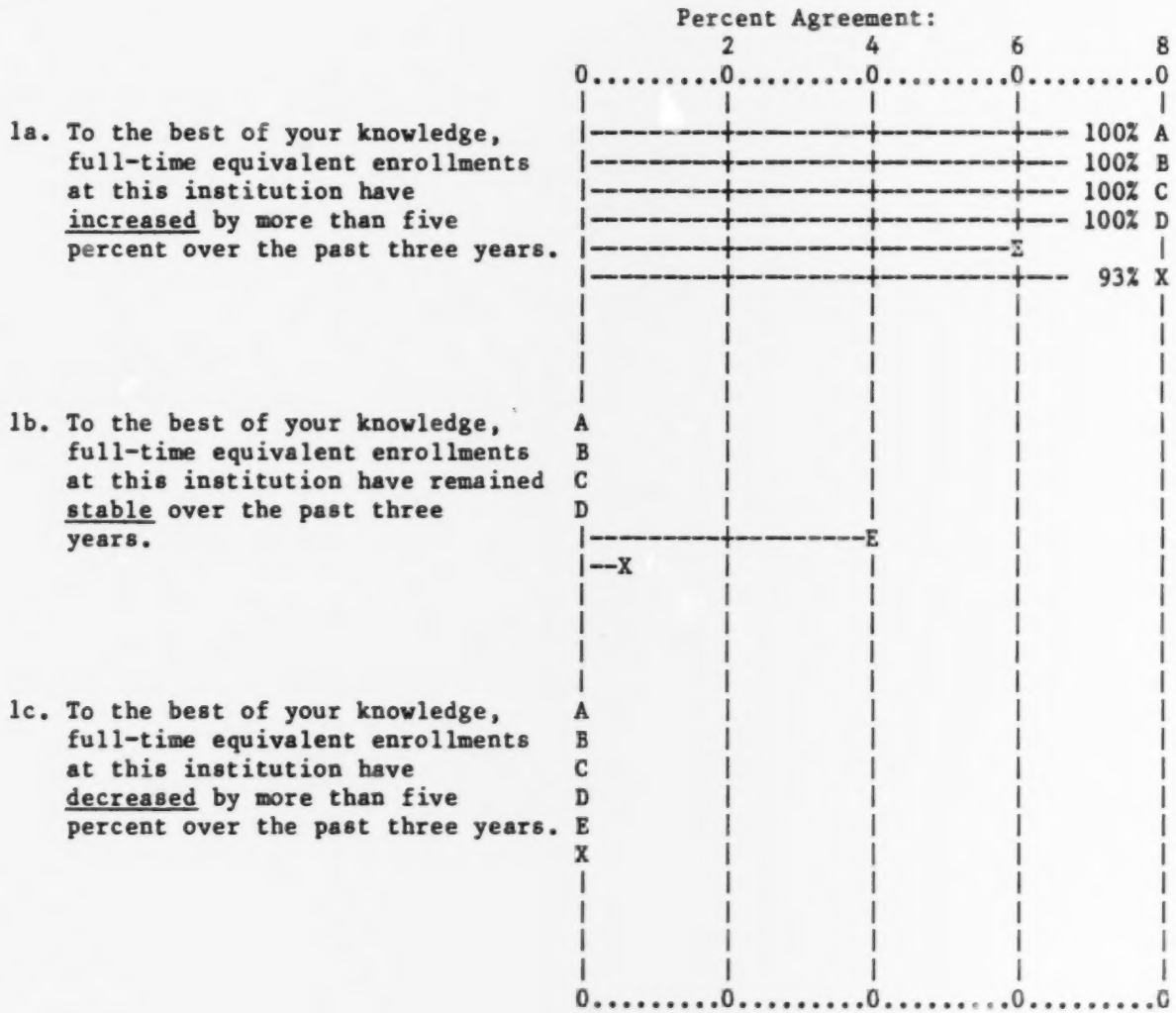
5. Threat. A low score indicates that respondents believe that a five percent decline in enrollments during the next year would threaten the viability of the institution. A high score suggests that respondents perceive the institution as resilient to the impact of a short-term decline in enrollments.

Responses to the above questions can be interpreted in a number of ways. First, if there is low agreement as to whether enrollments have increased, remained stable, or declined, you might ask whether this indicates poor communication within the institution. You should also examine whether variations among the respondent groups, particularly faculty groups, reflect

differences in the respondents' experiences that are not representative of the whole institution. For example, if one academic unit has experienced declining enrollments while others have not, respondents in that unit are more likely than others to perceive overall institutional enrollments as decreasing.

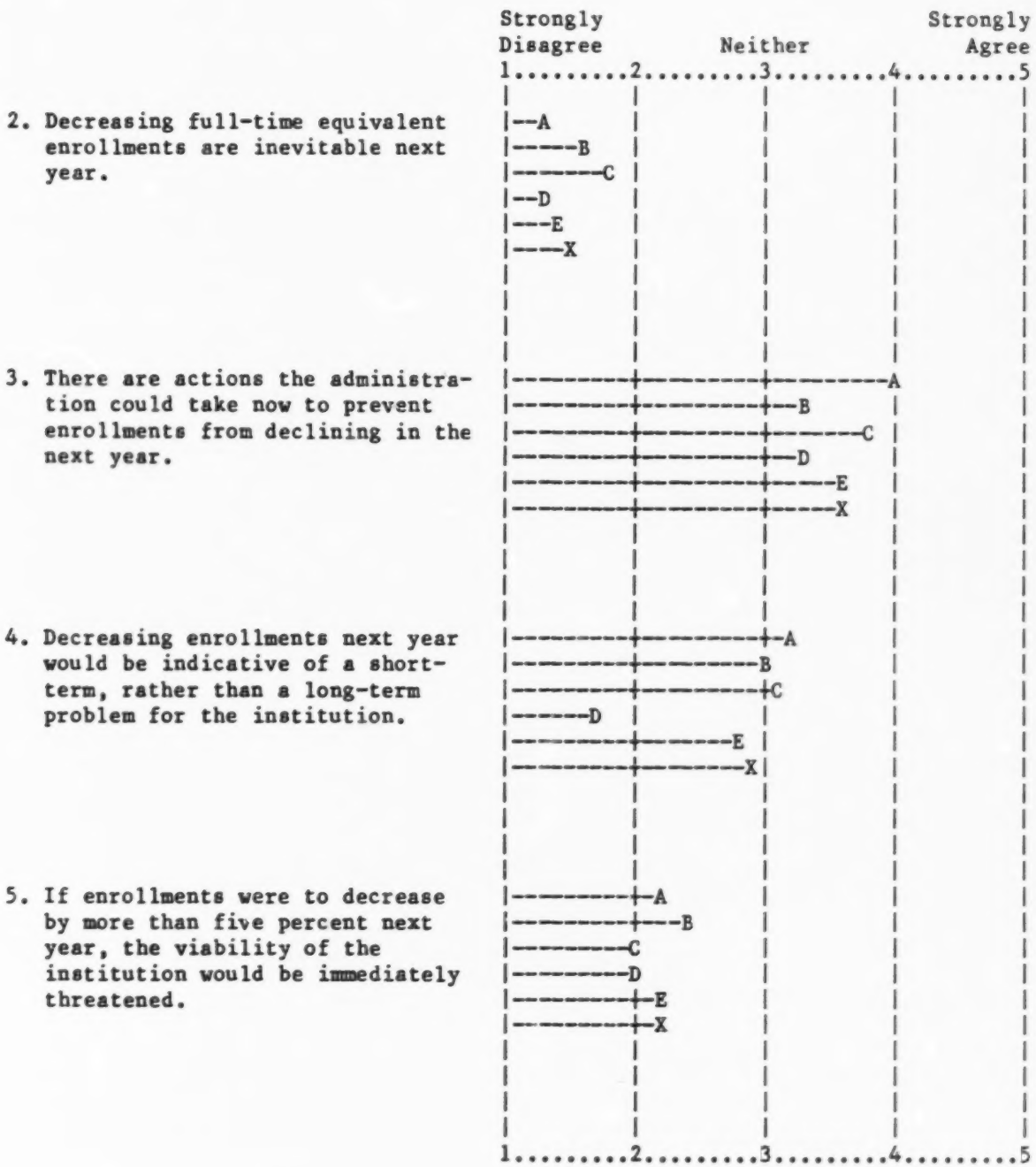
Second, the responses to questions 2 through 5 should be examined in concert. The worse-case scenario would be where respondents believe that declining enrollments are inevitable, that there is little the administration can do to prevent them, and that they will jeopardize the viability of the institution. Such a response pattern would indicate that respondents believe that the institution is about to undergo a major crisis. In this situation, administrators should seriously assess the extent to which plans have been formulated to address such a crisis and whether these plans have been credibly communicated throughout the institution.

Section 2: Institutional Enrollments


Percent Agreement:
2
4
6
8
0.....0.....0.....0.....0
1a. To the best of your knowledge, full-time equivalent enrollments at this institution have increased by more than five percent over the past three years.
100% A
100% B
100% C
100% D
93% X
1b. To the best of your knowledge, full-time equivalent enrollments at this institution have remained stable over the past three years.
1c. To the best of your knowledge, full-time equivalent enrollments at this institution have decreased by more than five percent over the past three years.

Key: A=Executive Administrators
B=Operations Administrators
C=Liberal Arts & Sci Faculty
D=Professional Sch Faculty
E=Phys&Biol Sci Faculty
X=All Respondents

Section 2: Institutional Enrollments (continued)




Key: A=Executive Administrators
B=Operations Administrators
C=Liberal Arts & Sci Faculty
D=Professional Sch Faculty
E=Phys&Biol Sci Faculty
X=All Respondents

## SECTION 3: Institutional Revenues

The first question in this section allows you to determine whether consensus exists within and among the respondent groups about institution revenues over the last three years. Questions 2 through 5 focus on respondents' projections about future revenues and their impact on the institution.

QUESTION EXPLANATION

1. Consensus. This question asks whether inflation-adjusted total revenues at your institution have increased by more than five percent, have remained stable, or have decreased by more than five percent over the last three years. The ideal response pattern is for all the respondents in each group to select the same reply. When responses within a group are dispersed among the three categories, little consensus may exist among members of that group about the institution's recent revenue experiences. Similarly, varying response patterns from different respondent groups indicates little agreement within the institution as to its revenue condition. Substantial disagreement within and among the respondent groups may indicate a source of contention within the institution and a need for better communication about institutional revenues.

2. Inevitability. High scores indicate that respondents predict declining revenues to be inevitable in the coming year. Conversely, low scores reflect the perception that declining revenues are not necessarily a part of the institution's near future.

3. Administrative Control. High scores indicate that respondents feel the institution can act now to avoid the possibility of declining revenues. Low scores tend to indicate a belief that future revenues are largely controlled by factors external to the institution.

4. Duration. Low scores indicate a belief that a revenue decline in the next year would be a short-term problem. High scores suggest that a near-term revenue decline would reflect a more extended trend of declining revenues.

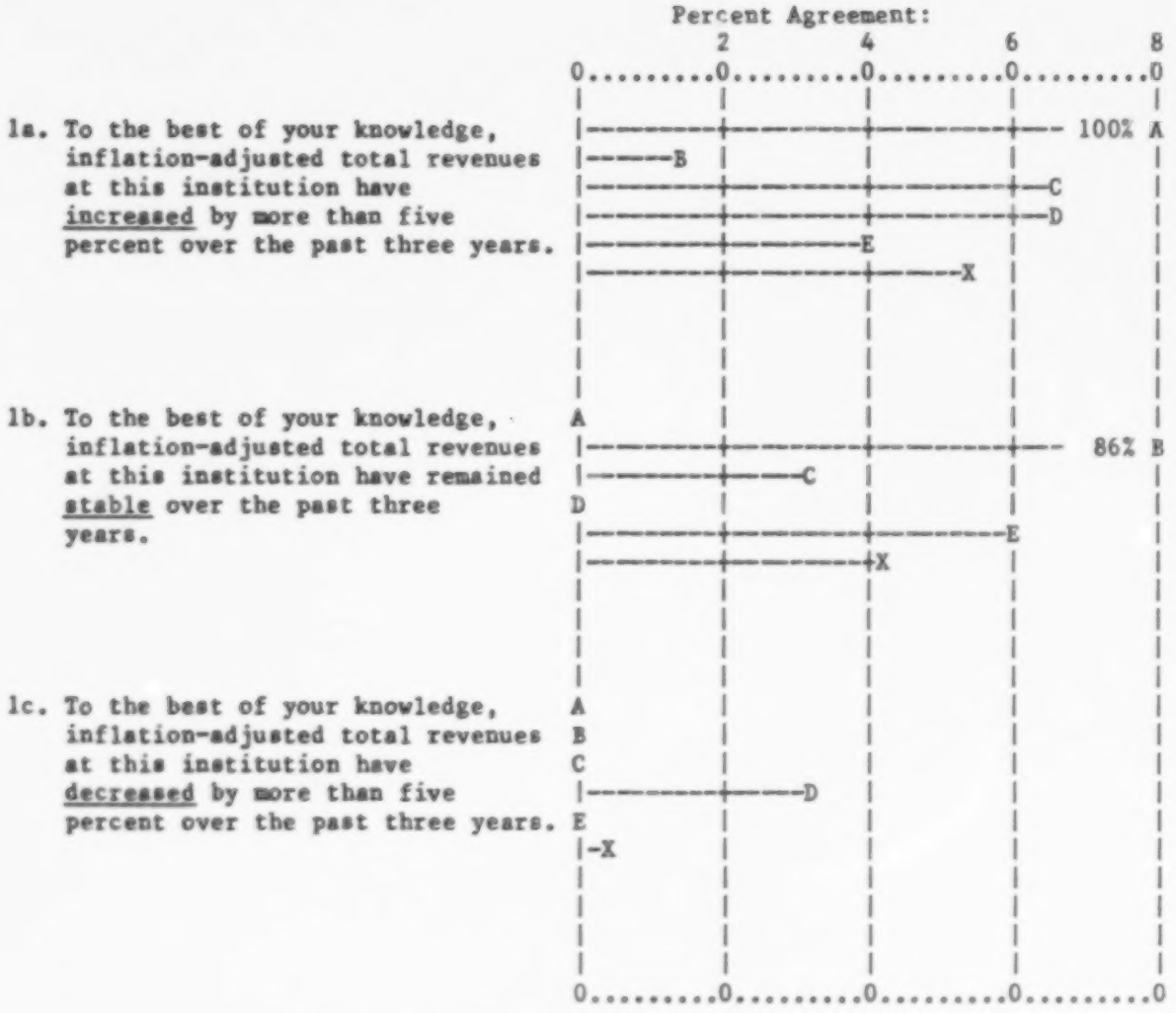
5. Threat. A low score indicates that respondents believe that a five percent decline in revenues during the next year would threaten the viability of the institution. A high score suggests that respondents perceive the institution as resilient to the impact of a short-term decline in revenues.

Responses to the above questions can be interpreted in a number of ways. First, if there is low agreement as to whether revenues have increased, remained stable, or decreased, you might ask whether this indicates poor communication within the institution. You should also examine variations among the respondent groups in light of the types and quality of information they are likely to possess about the institution's revenues.

Second, the responses to questions 2 through 5 should be examined in concert. The worse-case scenario would be where respondents believe that declining revenues are inevitable, that there is little the administration can do to prevent them, and that they will jeopardize the viability of the institution. Such a response pattern would indicate that respondents believe that the institution is about to undergo a major crisis. In this situation, administrators should seriously assess the extent to which plans have been formulated to address such a crisis and whether these plans have been credibly communicated throughout the institution.

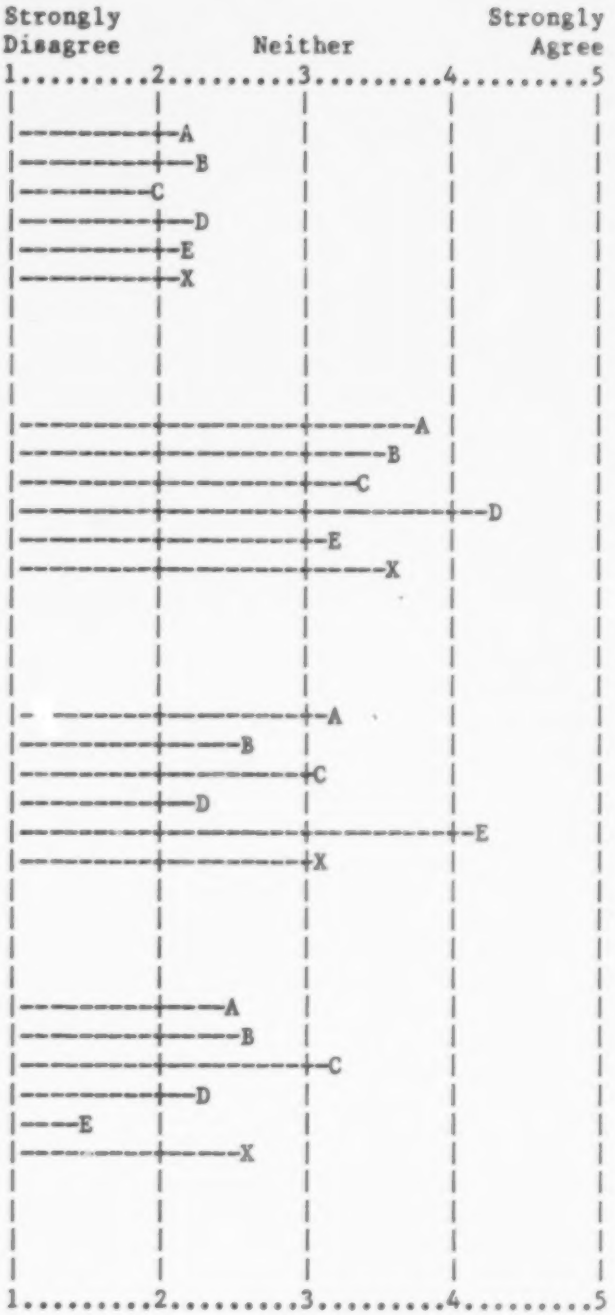
Finally, research at NCHEMS suggests that individuals may be more sensitive to an institution's financial condition than to its enrollment experiences. You may want to compare the accuracy of perceptions about enrollment experiences with those concerning revenue conditions.

Section 3: Institutional Revenues




Key: A=Executive Administrators
B=Operations Administrators
C=Liberal Arts & Sci Faculty
D=Professional Sch Faculty
E=Phys&Biol Sci Faculty
X=All Respondents

Section 3: Institutional Revenues (continued)


Strongly Disagree
Neither
Strongly Agree
1.....2.....3.....4.....5
2. Decreasing inflation-adjusted total revenues are inevitable next year.
3. There are actions the administration could take now to prevent total revenues from declining in the next year.
4. Decreasing total revenues next year would be indicative of a short-term, rather than a long-term problem for the institution.
5. If total revenues were to decrease by more than five percent next year, the viability of the institution would be immediately threatened.

Key: A=Executive Administrators
B=Operations Administrators
C=Liberal Arts & Sci Faculty
D=Professional Sch Faculty
E=Phys&Biol Sci Faculty
X=All Respondents

## SECTION 4: Institutional Functioning

Questions in this section focus on certain structural and process characteristics of your institution. Clearly identified in past research, these characteristics are closely correlated with the management and performance of an institution. Each topic is briefly explained below, and an indication of how to interpret high or low scores is provided.

| QUESTION | EXPLANATION |
|---|---|
| 1. | Specialization. High scores indicate that many specialists exist in the administration, while low scores indicate a preponderance of generalists as administrators. Large organizations are almost always more specialized than smaller organizations. |
| 2. | Formalization. This question concerns the amount of formalization at your institution. Formalized institutions are governed by an abundance of rules and regulations. Institutions that score low on this item can be characterized as more informal and flexible. |
| 3,4,5,6. | Mission. These four items assess perceptions of institutional mission. Institutions that score high on one of these items tend to score high on all four, while those that score low on one tend to score low on all four. High scores indicate that the institution has a special sense of identity and mission, and that respondents feel that a special purpose is associated with the school. Low scores indicate that the institution is not much different from many other schools, and that respondents hold diverse views regarding its purpose. |
| 7. | Investor Confidence. High scores indicate that the institution provides substantial benefit to constituencies who invest time or resources in it. Low scores indicate that the school may not be providing constituencies with what they want. |
| 8. | Structural Coupling. High scores indicate that elements of institutional structure are loosely coupled. That is, the institution has many autonomous subunits that can operate independently of each other. Low scores indicate tighter coupling and closer coordination among subunits. |
| 9. | Centralization. High scores indicate that major decisions tend to be made at the top of the organizational hierarchy. Low scores reflect broad participation by members at lower levels of the organization. |
| 10. | Planning. High scores indicate that a short-term planning perspective is perceived to permeate the institution. Low scores indicate that a long-term perspective is more typical. Institutions facing crises or uncertainty frequently adopt a short-term perspective. |

11. Innovation. High scores indicate that innovations and experimentation are increasing. Low scores indicate a decrease in innovation.

12. Scapegoating. This question measures the extent to which top administrators are scapegoated or blamed for problems in the institution. High scores indicate that respondents feel that administrators get more than their share of blame. Low scores indicate that administrators are not perceived as carrying the brunt of criticism.

13. Resistance to Change. This item reflects the extent to which resistance to change and innovation is present in the institution. High scores reflect conservative tendencies. Low scores indicate a willingness to try new things and to accept change.

14. Administrative Turnover. High scores indicate that respondents perceive a large amount of turnover in administrative positions, even instability. Low scores indicate little turnover and a great deal of stability.

15. Morale. High scores indicate that respondents feel morale is improving. Low scores indicate that morale is decreasing and that people are becoming more dissatisfied.

16. Slack Resources. This question measures the amount of slack or uncommitted resources present in the institution. High scores indicate that the institution has few discretionary resources and that cuts would damage the school. Low scores indicate that the institution is perceived to have resources that could be reallocated or cut without "getting to the bone."

17. Interest Groups. This item reflects the extent to which special interest groups are becoming more visible and verbal. Under conditions of crisis or threat, groups often organize and become more politically active. They put greater demands on the institution to respond to their preferences. High scores indicate that the institution is becoming more political and pluralistic; low scores indicate the reverse.

18. Administrator Credibility. High scores indicate that respondents have confidence in the integrity of top administrators. Low scores indicate that top administrators are seen as untrustworthy or incompetent.

19. Reallocation Priorities. This question concerns whether cutbacks occur on the basis of priority or are initiated across-the-board. High scores indicate the presence of a prioritized plan for retrenchment. Low scores indicate a tendency toward generalized, across-the-board cutbacks.

20. Conflict. High scores indicate increasing conflict among institution members, while low scores reflect a decrease in conflict.

21. Locus of Control. This item assesses where top administrators place their locus of control. People are said to have an internal locus of control when they view the world as a place they can control, or where they can influence causal factors. People are said to have an external locus of control when they view the world as largely beyond their control. Uncontrollable events play a significant role for them. High scores on this item indicate that top administrators are externally oriented; they feel that factors affecting the institution and lie outside the institution cannot be controlled. Low scores indicate an internal locus of control and the feeling that top administrators can control the destiny of the school.

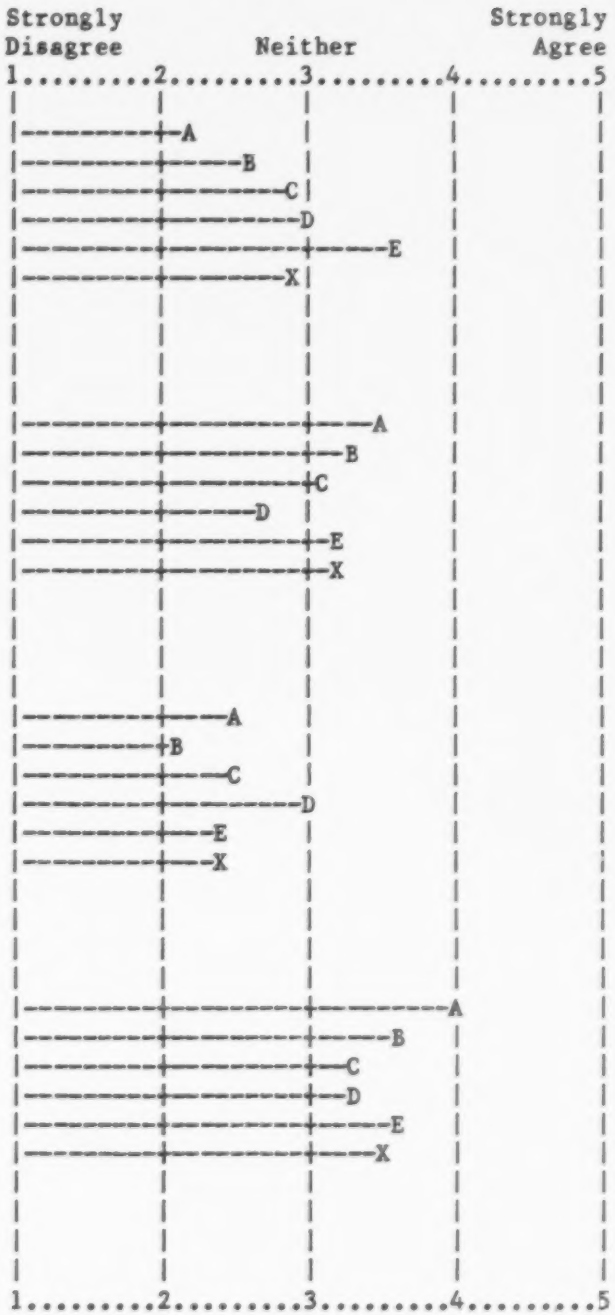
22. Internal Mobility. High scores indicate that top positions are generally filled through promotion from within the institution. Low scores indicate that top positions are more likely to be filled by people from outside the institution.

Once you have reviewed individual scores, consider them as a group. By taking note of especially high and low scores, you can put together descriptive sentences such as, "We see ourselves as having a very clear consensus regarding our mission and a strong resistance to change. People generally feel good about participating in the institution (high investor confidence and rising morale). Decisionmaking is seen as highly centralized. Resources are very scarce, yet people tend not to blame administrators for problems." Through such an exercise, you can begin to paint a picture of how people view your institution.

Also consider what might lie behind any apparent incongruities. For example, some institutions score high on resistance to change and on innovation. Some find that morale is rising, in spite of the apparently contradictory fact that conflict is perceived to be high. Are such incongruities explained by looking closely at differences among groups of respondents? Was there a key issue on campus at the time they completed the surveys that may have colored their responses?

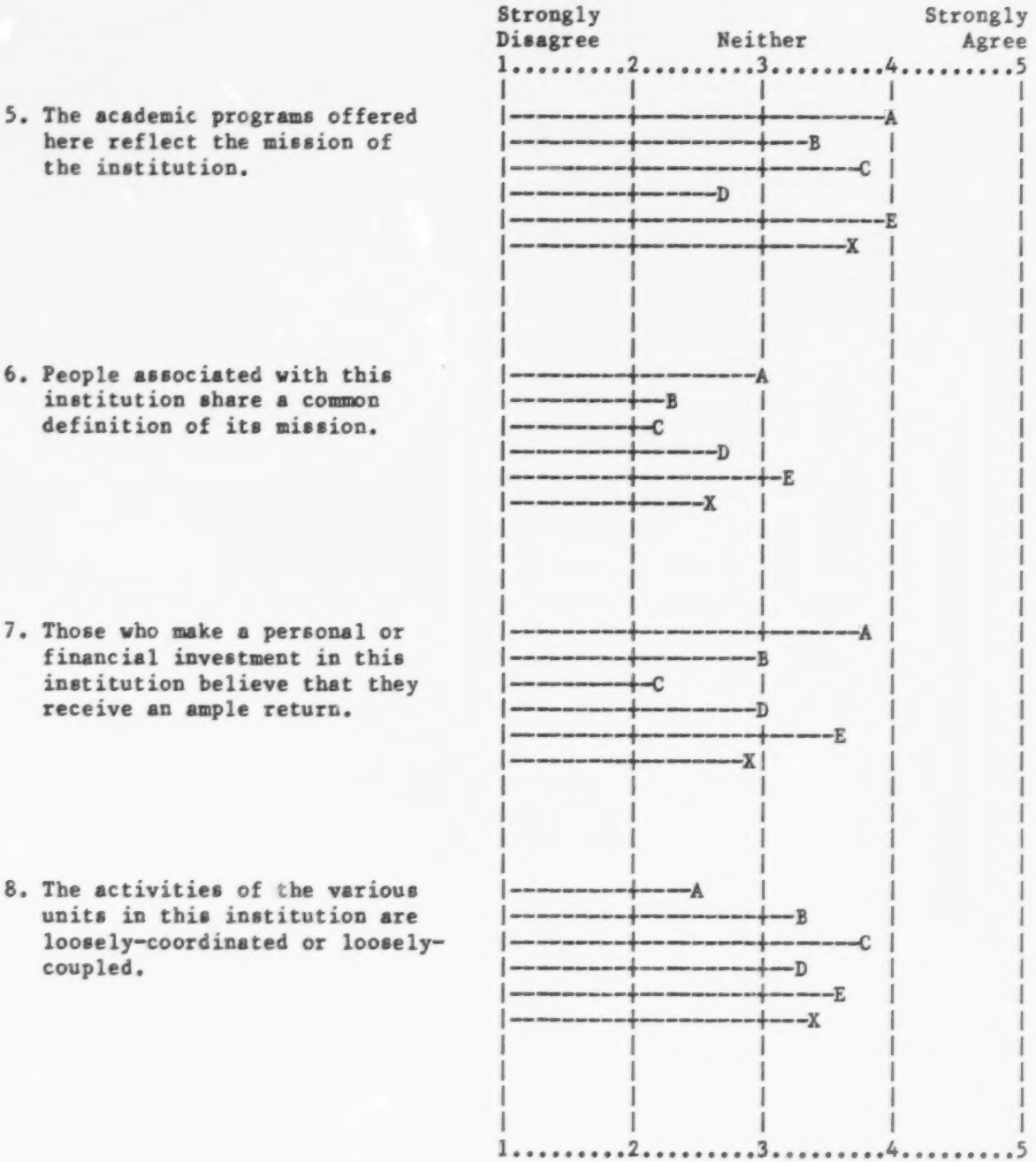
You can also use the responses collectively to probe fundamental issues about why people at your institution seem to see things as they do. In the example above, you may be surprised that an institution where people are basically content can also be one with high centralization and scarce resources. Ask yourself whether you believe that the scores represent reality. If you have confidence in them, consider the factors that may account for them. Perhaps that institution has a strong president who has an excellent grasp of what people want done. Centralization gets them what they want without their taking time or effort to ensure it. If such president is nearing retirement, what kind of president is now needed and what possible changes should be made in habitual patterns of decisionmaking?

Section 4: Institutional Characteristics




Key: A=Executive Administrators
B=Operations Administrators
C=Liberal Arts & Sci Faculty
D=Professional Sch Faculty
E=Phys&Biol Sci Faculty
X=All Respondents

Section 4: Institutional Characteristics (continued)




Key: A=Executive Administrators
B=Operations Administrators
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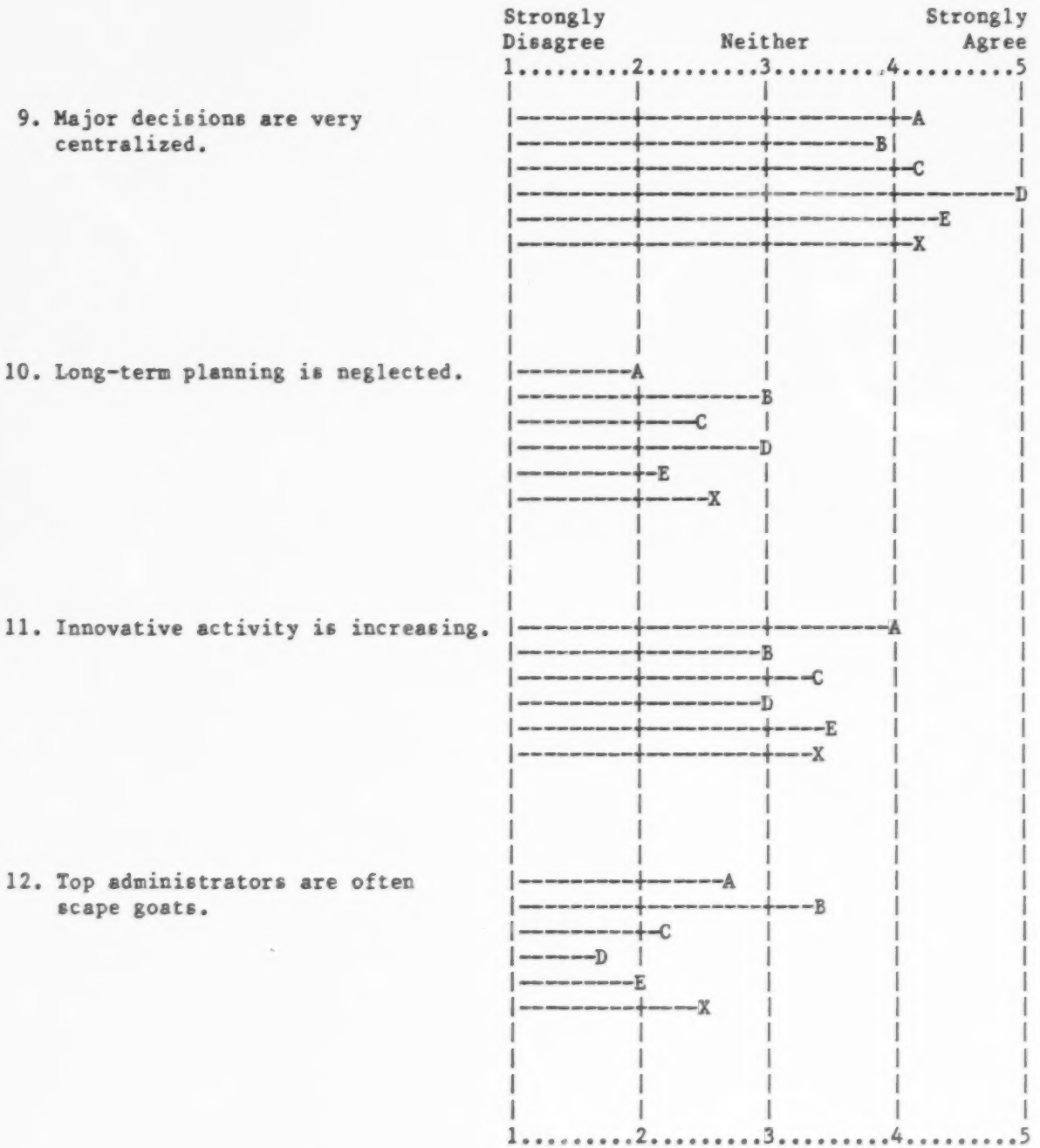
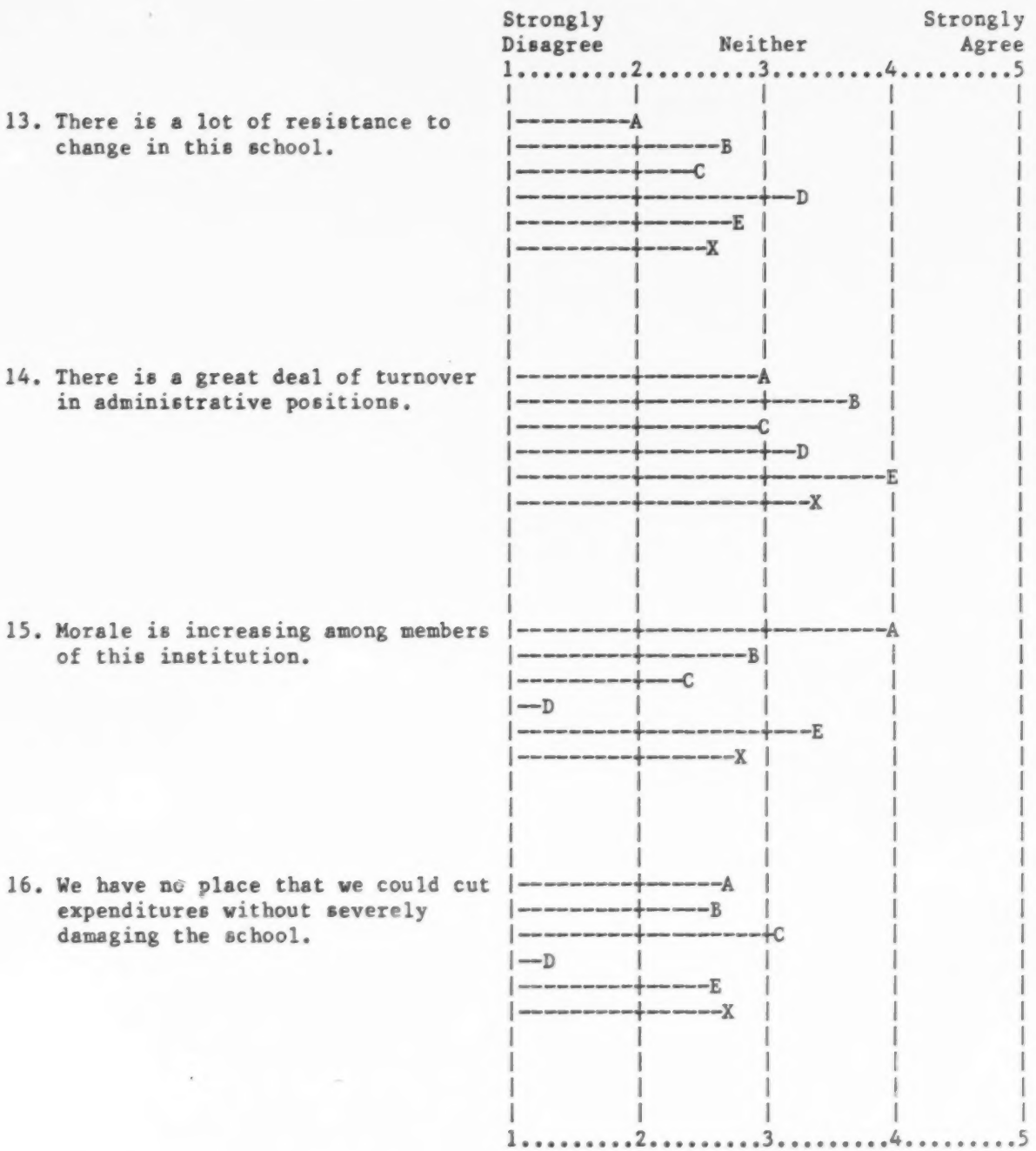
D=Professional Sch Faculty
E=Phys&Biol Sci Faculty
X=All Respondents

Section 4: Institutional Characteristics (continued)



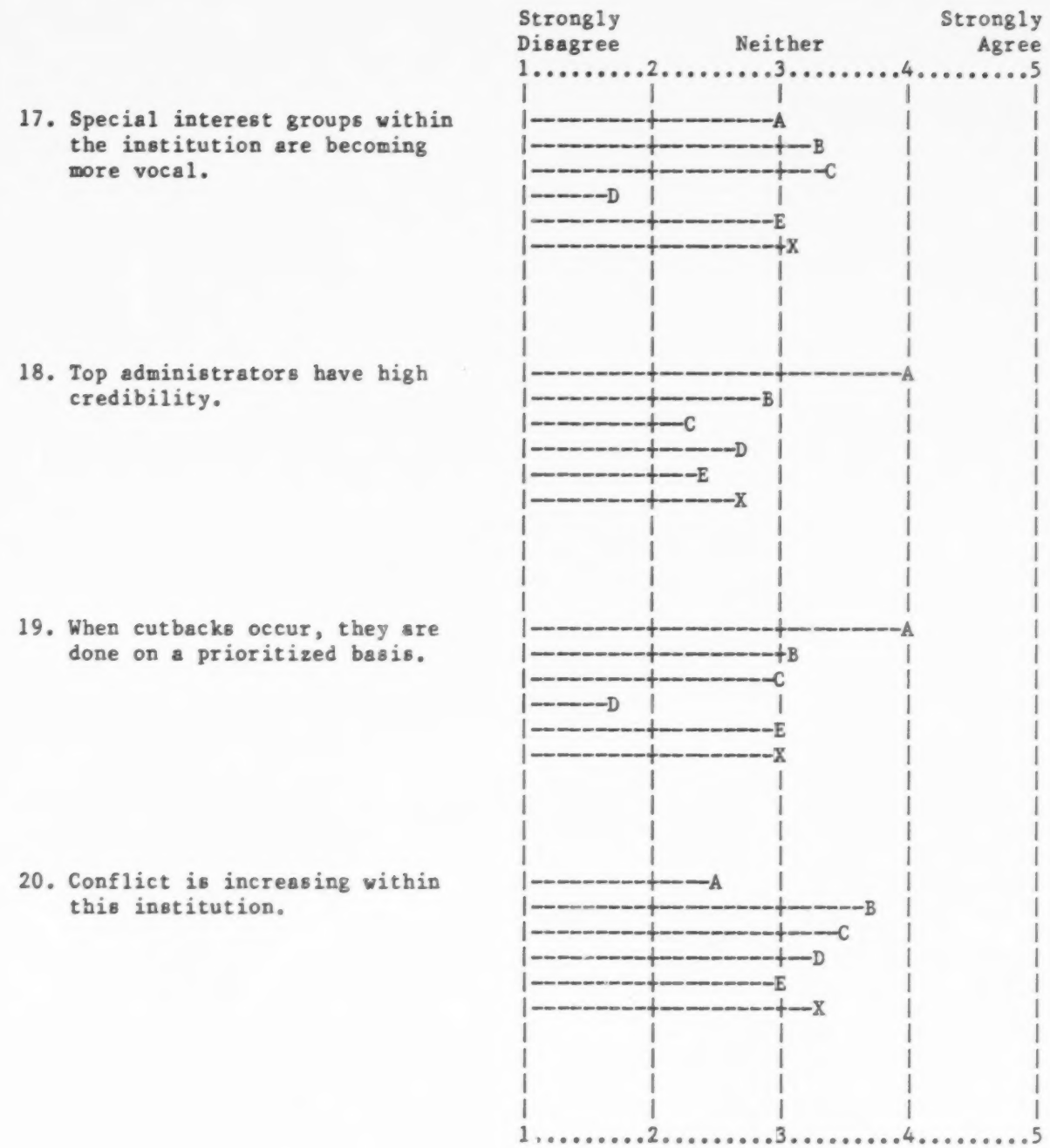

Key: A=Executive Administrators
B=Operations Administrators
C=Liberal Arts & Sci Faculty
D=Professional Sch Faculty
E=Phys&Biol Sci Faculty
X=All Respondents

Section 4: Institutional Characteristics (continued)


Strongly Disagree
Neither
Strongly Agree
1.....2.....3.....4.....5
13. There is a lot of resistance to change in this school.
14. There is a great deal of turnover in administrative positions.
15. Morale is increasing among members of this institution.
16. We have no place that we could cut expenditures without severely damaging the school.

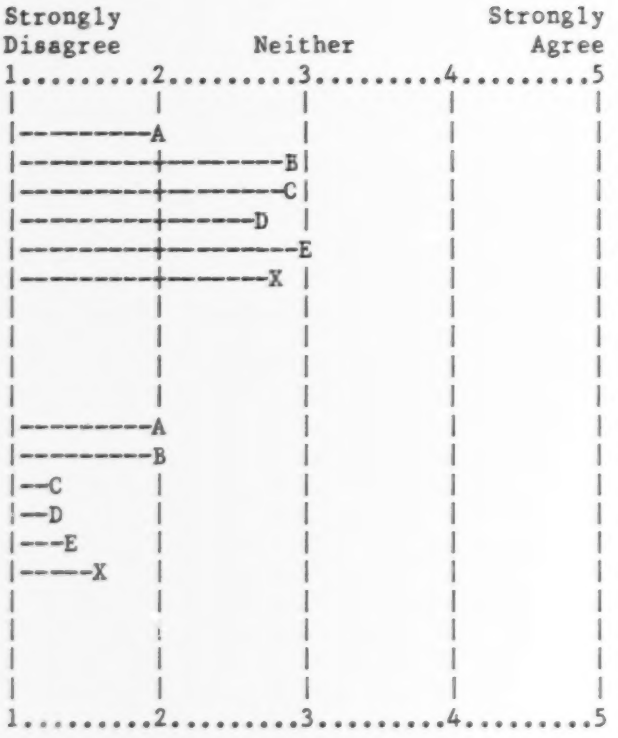
Key: A=Executive Administrators
B=Operations Administrators
C=Liberal Arts & Sci Faculty
D=Professional Sch Faculty
E=Phys&Biol Sci Faculty
X=All Respondents

Section 4: Institutional Characteristics (continued)




Key: A=Executive Administrators
B=Operations Administrators
C=Liberal Arts & Sci Faculty
D=Professional Sch Faculty
E=Phys&Biol Sci Faculty
X=All Respondents

Section 4: Institutional Characteristics (continued)




Key: A=Executive Administrators
B=Operations Administrators
C=Liberal Arts & Sci Faculty
D=Professional Sch Faculty
E=Phys&Biol Sci Faculty
X=All Respondents

## SECTION 5: Institutional Culture

This section concerns the kind of culture that exists in your institution. An institution's culture can be categorized as one of four types: a clan culture, a hierarchy culture, a market culture, and an emergent-system culture. Some institutions have a single dominant culture; others have a more heterogeneous culture that cannot be characterized as any one type. This section of the questionnaire assesses both the extent to which a dominant culture exists and the type of culture that pervades the institution.

Each type of culture has certain characteristics, among them leadership style and certain strategic orientations. The four items included in this section assess the extent to which the characteristics of one culture are consistently present within your institution or whether a diverse culture exists. The following provides a brief explanation of the four cultures and their salient characteristics.

| CULTURE | CHARACTERISTICS |
|---|---|
| Clan | A clan is much like a family; it is highly personal and formal. Loyalty and tradition are bonding forces and morale is usually high. Clans are usually led by father or mother figures or by mentors. |
| Emergent System | An emergent system is dynamic and entrepreneurial; it emphasizes innovation and new ideas. This kind of institution is strongly committed to development and progress, and its leader is usually an innovator or entrepreneur. |
| Hierarchy | A hierarchy is a formalized, tightly structured institution governed by formal rules and procedures. As archetypal bureaucracies, such institutions emphasize efficient, well-oiled processes. They value stability and permanence. Hierarchies are usually led by organizers and coordinators. |
| Market | When a market culture pervades an institution, the school is production-oriented and values the accomplishment of tasks. Goals drive the institution's activities, and there is a sense of competition and achievement among members. The leader of a market-oriented institution is usually a hard-driving producer who places high priority on results. |

For each of the four topics included in this section, respondents were asked to divide 100 points among the four types of cultures, indicating how well each type described your institution. The first topic concerns which specific culture, if any, prevails at your institution. The second topic focuses on institutional leadership, the third looks at institutional cohesion, and the fourth describes institutional emphases. Throughout, item A represents the clan type of institution; item B portrays the emergent system; item C represents the hierarchical institution; and item D is indicative of a market-oriented institution. Schools with congruent cultures score

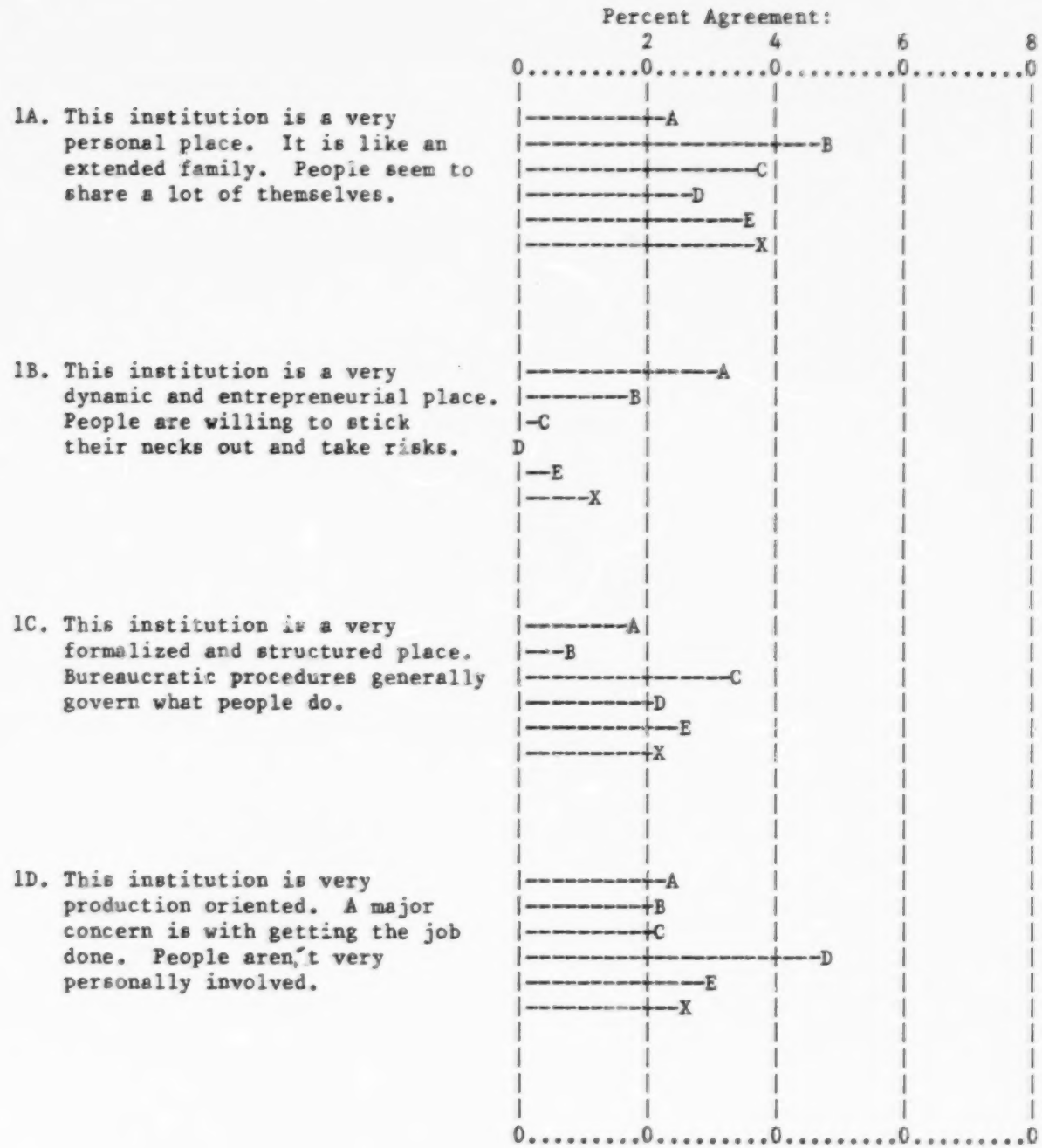
consistently high on the same cultural type in each of the four topics. Schools with heterogeneous cultures have no consistent pattern to their scores.

Approximately 50 percent of the four-year institutions we studied have a congruent culture, whereas the remaining 50 percent have a diverse or heterogeneous culture. Our research has shown that approximately 40 percent of all schools have a clan culture, about 5 percent have a hierarchy culture, about 3 percent have an emergent-system culture, and about 1 percent have a market culture.

Preliminary analyses of data for over 300 four-year institutions show that private institutions tend to have a much stronger clan-like culture than institutions in the public sector. However, this relationship appears to be moderated by institutional size. Smaller institutions are much more likely to be perceived as having a clan culture than larger institutions. Correlational analyses show that each cultural type has a different pattern of relationships with a set of selected institutional processes. The table below summarizes these relationships by indicating the direction of the relationship between the cultural types and each of the selected aspects of institution functioning and performance. For example, the first row indicates that clan and emergent cultures have a positive relationship with investor confidence while hierarchy and market cultures are negatively related to investor confidence. That is, the more an institution is like a clan or emergent system, the more likely that investor confidence is high. Conversely, the more an institution is like a hierarchy or market, the more likely investor confidence is low. Examining the table in light of your own institution's scores can provide you with some insight into how your institution's cultural orientation might be related to institutional functioning.

| | Cultural Type | | | |
|---|---|---|---|---|
| Variables | Clan | Emergent | Hierarchy | Market |
| Investor Confidence | + | + | - | - |
| Centralized Decisionmaking | - | - | + | + |
| Long Term Planning | - | - | + | + |
| Innovative Activity | - | - | + | + |
| Morale | + | + | - | - |
| Administrative Credibility | + | + | - | - |
| Conflict | - | - | + | + |
| Student-Faculty Relations | + | + | - | - |
| Equity of Rewards | + | + | - | - |
| Trust Among People | + | + | - | - |
| Feedback | + | + | - | - |

Section 5: Institutional Culture: Type



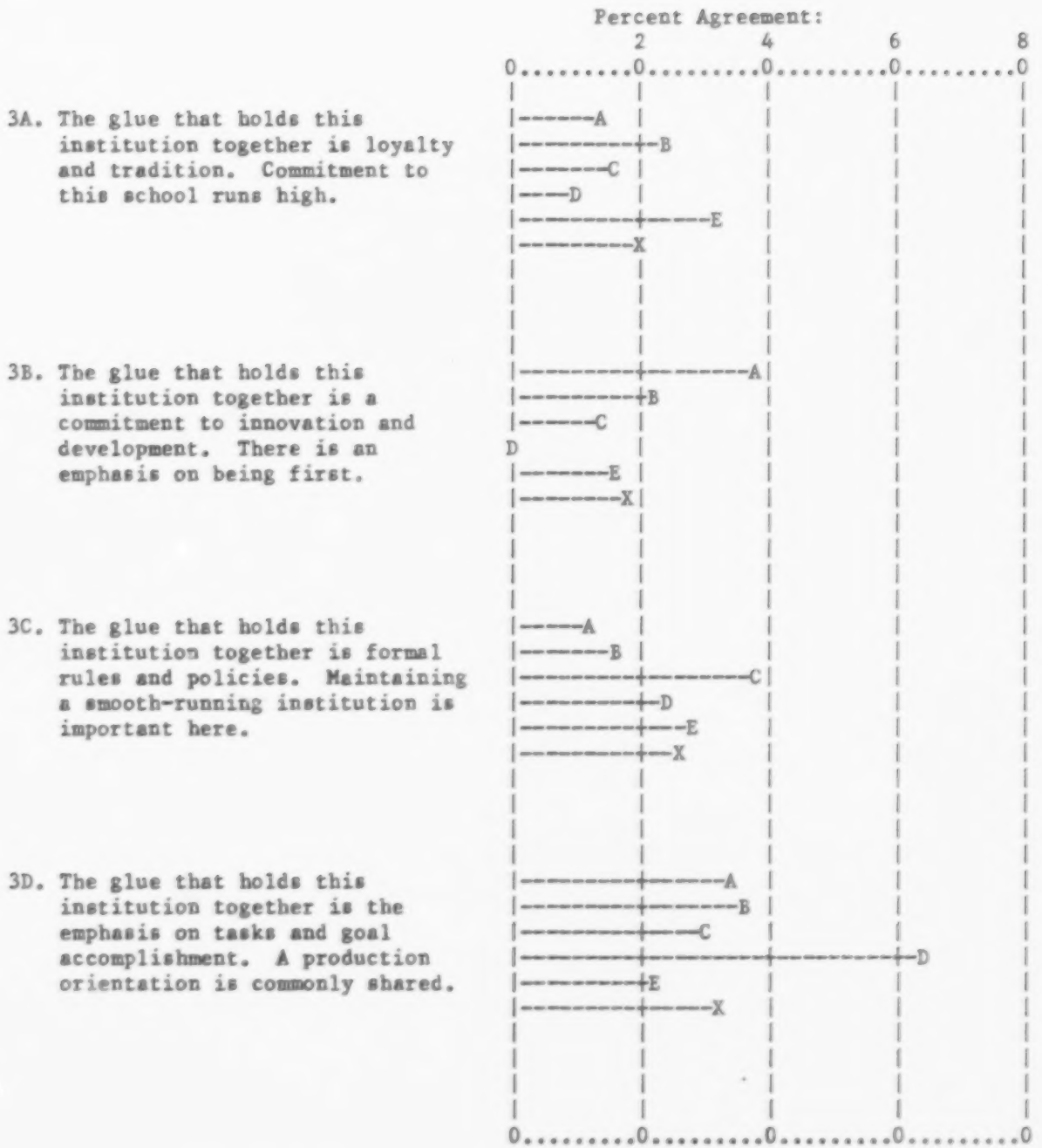

Key: A=Executive Administrators
B=Operations Administrators
C=Liberal Arts & Sci Faculty
D=Professional Sch Faculty
E=Phys&Biol Sci Faculty
X=All Respondents

Section 5: Institutional Culture: Leader

Percent Agreement:
2
4
6
8
2A. The head of this institution is generally considered to be a mentor, a sage, or a father or mother figure.
2B. The head of this institution is generally considered to be an entrepreneur,an innovator, or a risk taker.
2C. The head of this institution is generally considered to be a coordinator, an organizer, or an administrator.
2D. The head of this institution is generally considered to be a producer, a technician, or a hard-driver.

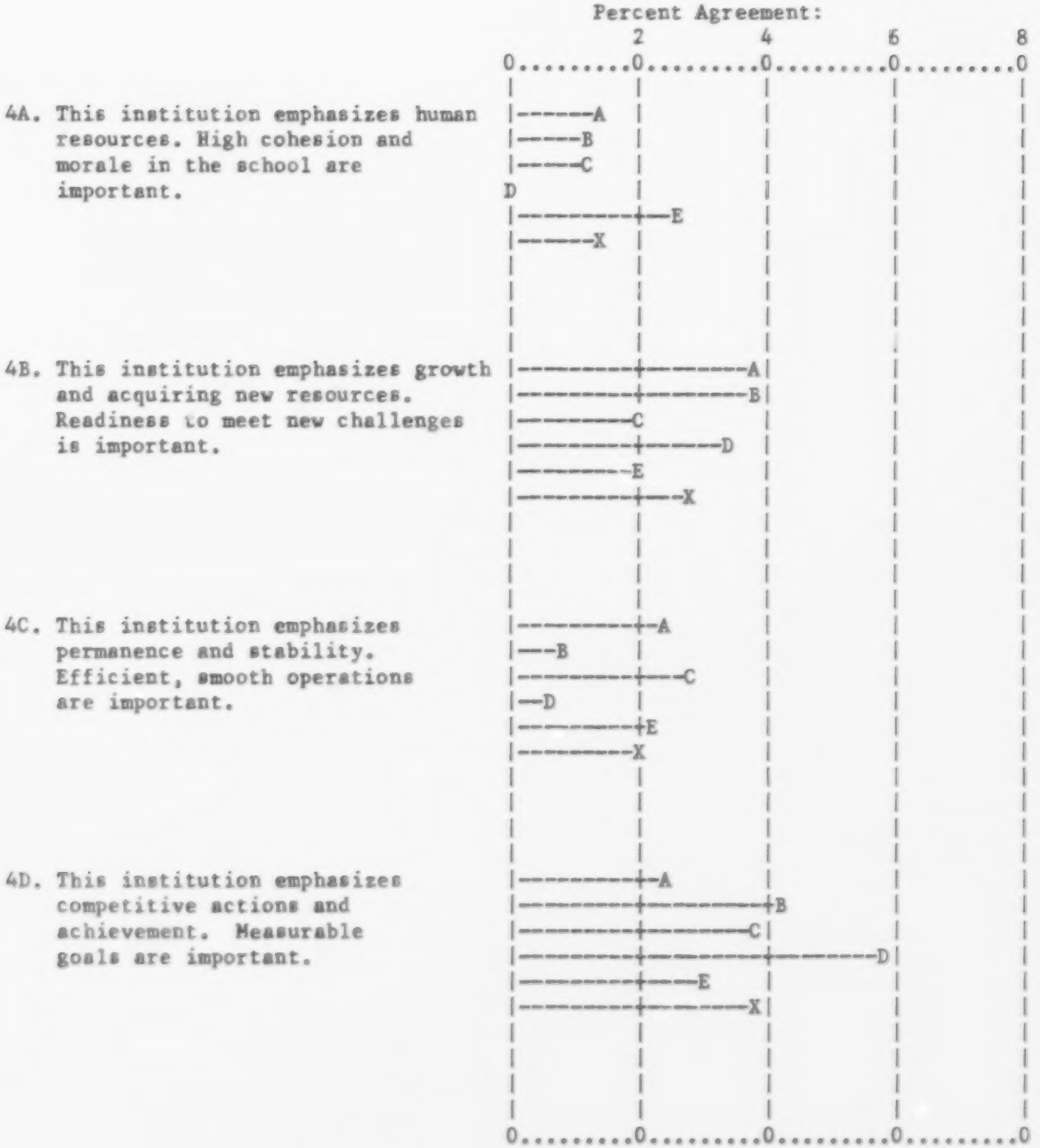
Key: A=Executive Administrators
B=Operations Administrators
C=Liberal Arts & Sci Faculty
D=Professional Sch Faculty
E=Phys&Biol Sci Faculty
X=All Respondents

Section 5: Institutional Culture: Cohesion


Percent Agreement:
0 2 4 6 8
3A. The glue that holds this institution together is loyalty and tradition. Commitment to this school runs high.
3B. The glue that holds this institution together is a commitment to innovation and development. There is an emphasis on being first.
3C. The glue that holds this institution together is formal rules and policies. Maintaining a smooth-running institution is important here.
3D. The glue that holds this institution together is the emphasis on tasks and goal accomplishment. A production orientation is commonly shared.

Key: A=Executive Administrators
B=Operations Administrators
C=Liberal Arts & Sci Faculty
D=Professional Sch Faculty
E=Phys&Biol Sci Faculty
X=All Respondents

Section 5: Institutional Culture: Emphases


Percent Agreement:
2
4
6
8
4A. This institution emphasizes human resources. High cohesion and morale in the school are important.
4B. This institution emphasizes growth and acquiring new resources. Readiness to meet new challenges is important.
4C. This institution emphasizes permanence and stability. Efficient, smooth operations are important.
4D. This institution emphasizes competitive actions and achievement. Measurable goals are important.

Key: A=Executive Administrators
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X=All Respondents

## SECTION 6: Institutional Strategy

Questions in this section on institutional strategy deal with the nature and extent of recent changes in your institution. Such changes are generally thought to be necessary when adapting your organization to a changing environment, thereby enabling it to develop. Research has shown that optimal responses to these questions vary for each institution, depending on its history, capabilities, and environment.

| Question | Explanation |
|---|---|
| 1,2. | Diversity. These two questions concern whether your institution is becoming more or less diverse in terms of its program offerings and student body. Both increased and decreased diversity are viable means of dealing with an organization's environment. Diversity spreads the risk of decline. Although one program or client group may shrink, another may expand--leaving the institution as a whole in approximately the same condition. Reduced diversity, or specialization, is appropriate when a clear need exists for a particular kind of program or for services to a specific client group. An institution specializing in that area can tap that market, rendering the school more attractive than one trying to include that market among many others. |
| 4,7. | Conservatism. High scores on these questions indicate a conservative orientation toward institutional strategy. Taking certain conservative measures is generally recommended, even if the institution is simultaneously taking more aggressive strategic action. One purpose of these conservative measures is to build political slack or credibility with external constituents and thereby buffer the organization from conflicting demands for change. Another purpose is to ensure that existing competencies of the institution remain strong and competitive. |
| 5,8. | Moderate Change. High scores on these questions indicate an organization that makes major strategic changes but in a conservative way. Such an institution will study the effects of similar changes on other organizations, or will do more of what the institution already does well. |
| 6,9. | Innovation. Institutions showing greatest change score highest on these questions. They are the first to try new things, and they establish new domains of activity. Optimal responses to these questions, and to the others in this section, depend heavily on the nature of the institution's mission and on events and trends in its environment. |
| 3,10, 11,12, 13,14. | Administration. This set of six questions deals with your institution's administration. Is your college or university attempting to monitor and respond to its environment? Is it increasing the quality of its administrators? When it comes to financial strategies, is your institution attempting to attract new |

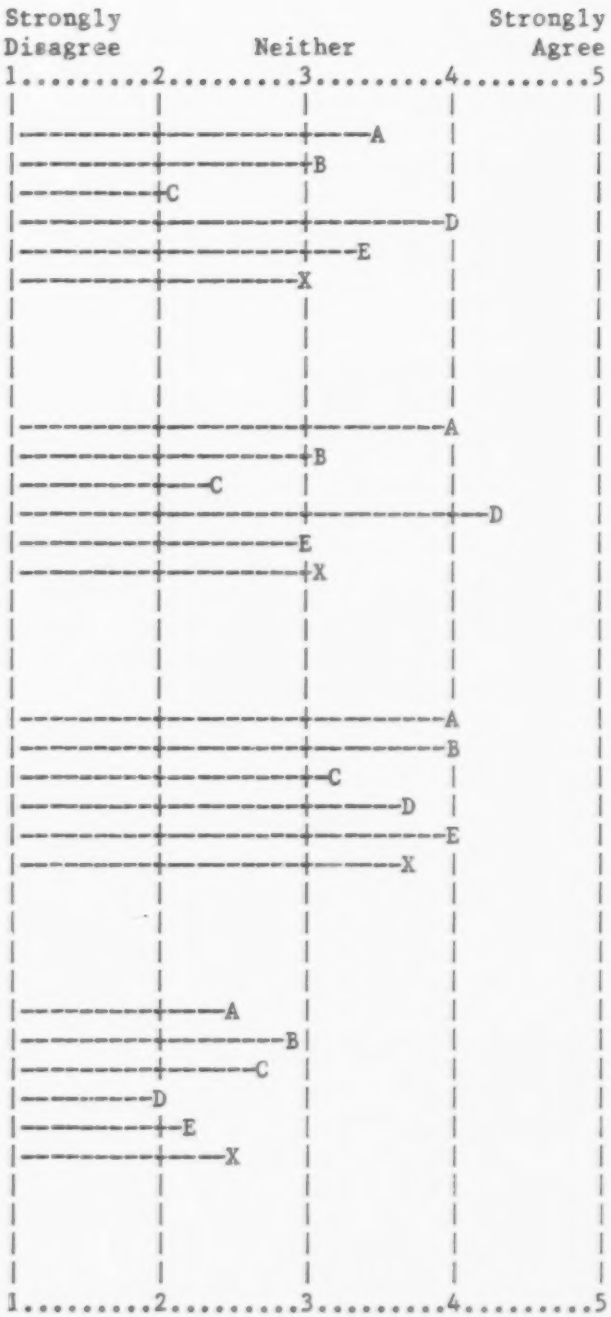
sources of revenue or to use existing revenue more efficiently? Are decisionmaking processes enhanced by attention to multi-year strategies and by feedback about past and current strategies? Our research has indicated that this set of questions contains more normative implications that the first four sets. That is, institutions that rate themselves highly on such factors as morale, student development, and ability to acquire resources also tend to rate themselves highly on this set of questions.

Again, it makes sense to examine strong responses in this section by, in effect, writing a paragraph about the school. For example, "Our college is diversifying its programs in highly innovative ways, but continuing to serve its traditional clientele. We are engaging in a good deal of management activities such as revenue attraction, revenue efficiency, and multi-year strategies, but the professionalism of our managers may be deteriorating." You may also want to incorporate responses from other sections to build a more complete picture of the school. The exercise enables you to find:

- Paradoxes--How can we be perceived as conservative and innovative at the same time?
- Potential problems--We're relying heavily on managerial responses, yet the quality of our managers is deteriorating
- Clear signals--Every question on mission shows that we all understand why we're here.

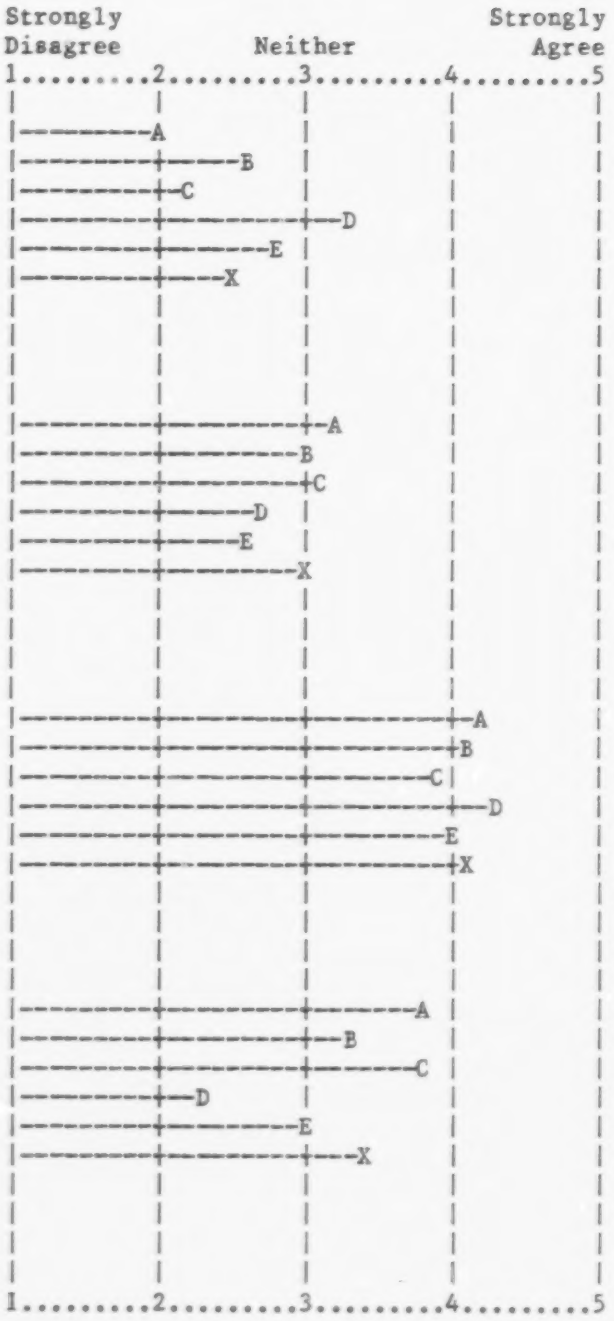
It appears that situations today are so complex as to require strong, multiple, and diverse strategies. We have found a number of schools that seem to be doing well by, in effect, scoring high on <u>all</u> the dimensions in this section. Properly focused and channeled, each dimension can have value.

Section 6: Institutional Strategy




Key: A=Executive Administrators
B=Operations Administrators
C=Liberal Arts & Sci Faculty
D=Professional Sch Faculty
E=Phys&Biol Sci Faculty
X=All Respondents

Section 6: Institutional Strategy (continued)




Key: A=Executive Administrators
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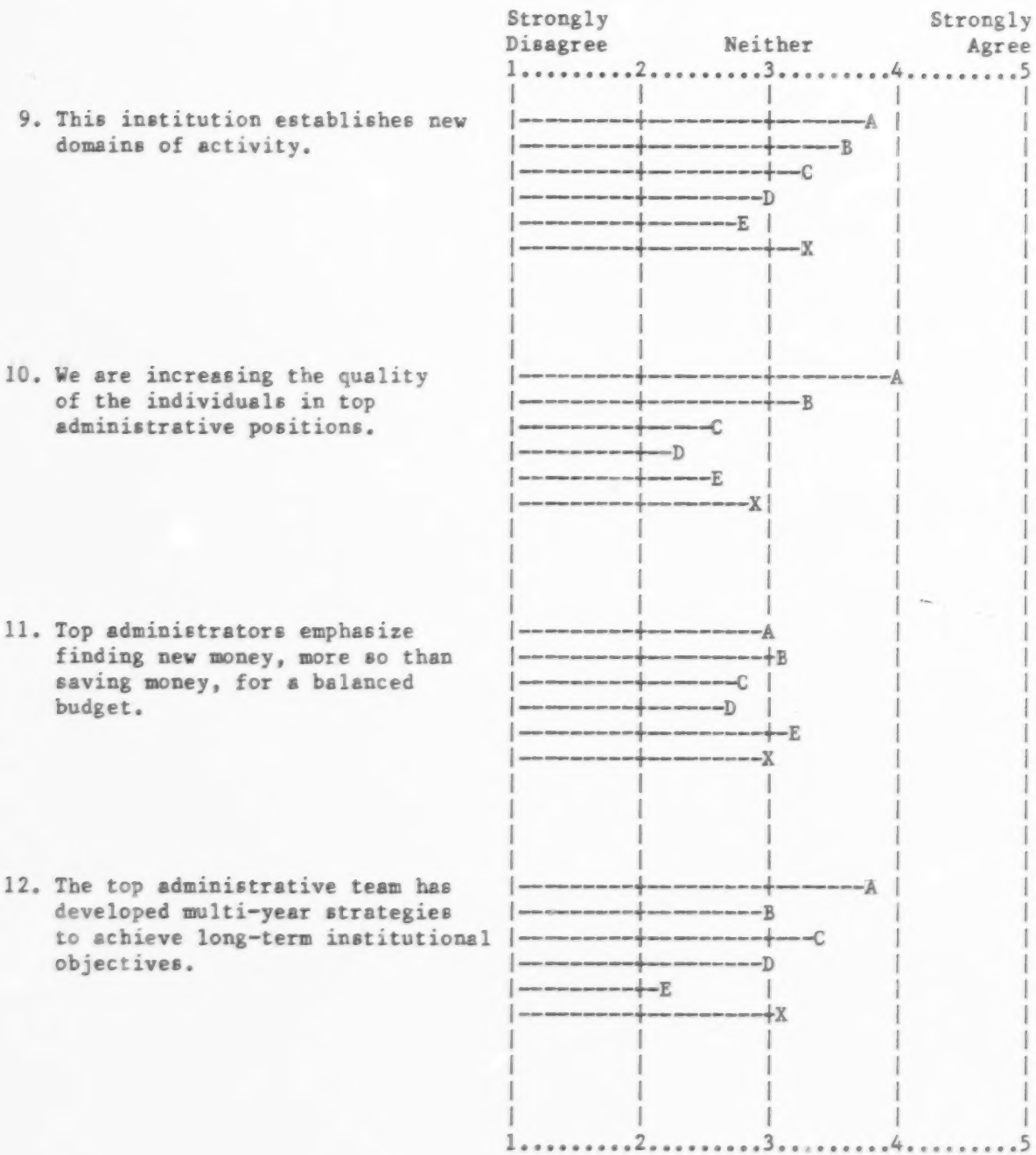
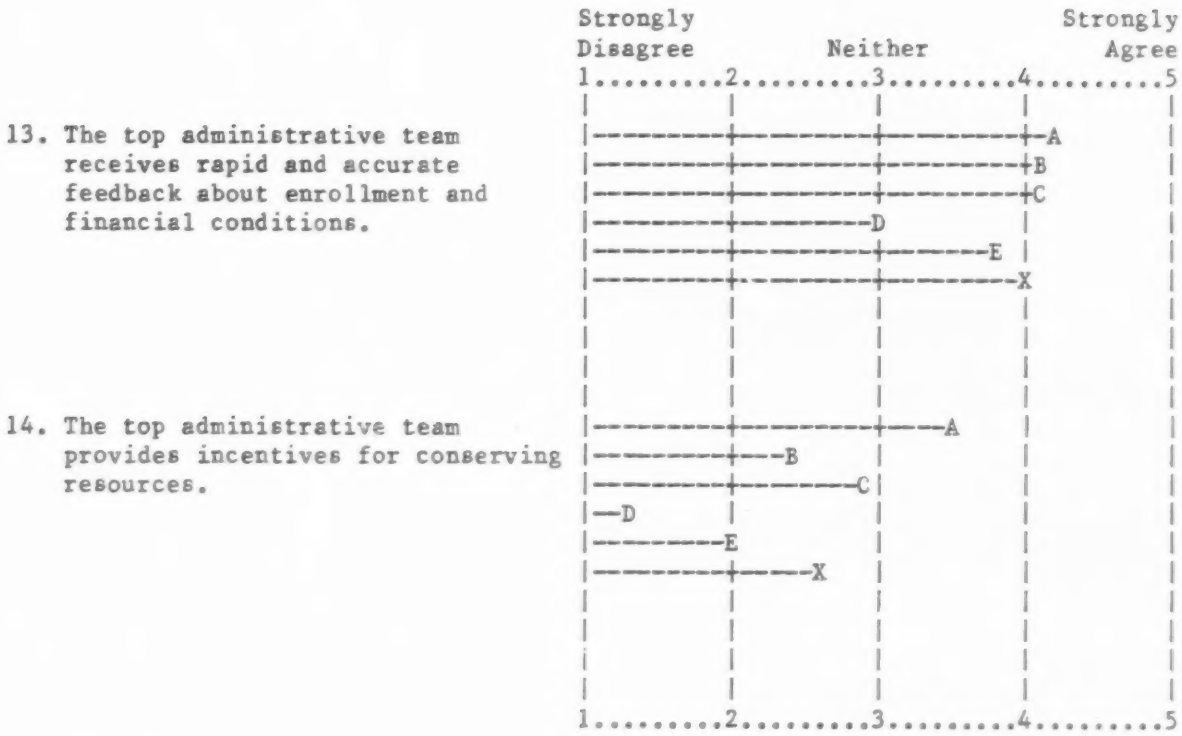
Section 6: Institutional Strategy (continued)


Strongly Disagree
Neither
Strongly Agree
1.....2.....3.....4.....5
9. This institution establishes new domains of activity.
10. We are increasing the quality of the individuals in top administrative positions.
11. Top administrators emphasize finding new money, more so than saving money, for a balanced budget.
12. The top administrative team has developed multi-year strategies to achieve long-term institutional objectives.

Key: A=Executive Administrators
B=Operations Administrators
C=Liberal Arts & Sci Faculty
D=Professional Sch Faculty
E=Phys&Biol Sci Faculty
X=All Respondents

Section 6: Institutional Strategy (continued)


Strongly Disagree
Neither
Strongly Agree
1.....2.....3.....4.....5
13. The top administrative team receives rapid and accurate feedback about enrollment and financial conditions.
14. The top administrative team provides incentives for conserving resources.

Key: A=Executive Administrators
B=Operations Administrators
C=Liberal Arts & Sci Faculty
D=Professional Sch Faculty
E=Phys&Biol Sci Faculty
X=All Respondents

## SECTION 7: Resource Allocation

Resource allocation in colleges and universities often elicits interest and concern. People want more resources for the projects they believe in. Failing that, they wish to protect their favorite projects from resource reduction. Sometimes they believe that resources are distributed fairly and sensibly; at other times they do not. When the latter is true, morale can decline. Moreover, people tend to perceive the resource-allocation process differently. Their views depend upon such factors as how closely they are able to observe its inner workings or how well allocation decisions match their personal priorities. Therefore, we often find interesting variations among replies to the following questions. When one group of respondents differs from others, you should consider why this may be the case. You may also wish to ask those involved to explain their views more fully than is permitted in a survey.

Question Explanation

1,7. Bureaucratic Allocation. Both of these questions concern how bureaucratic your resource-allocation decisions are. High scores on question 1 indicate a highly standard, routine, or regular resource-allocation process. People may not know what a specific decision is going to be, but they are likely to know when it was proposed, how it has been examined, who will make the decision, and when it will occur. Low scores suggest a very unpredictable, irregular decision process. Question 7 explicitly deals with the perceived amount of bureaucracy in the decision process. Question 7 is not highly correlated with question 1. This suggests that respondents consider factors other than standardization in their definitions of bureaucracy, among them ridigity of organizational structure, hierarchy, centralization of control, and predictability of results.

2,8. Autocratic Allocation. Questions 2 and 8 identify whether the decision process is autocratic, with the outcome essentially determined by a single individual. The questions are highly correlated and should produce similar responses. High scores suggest that people believe resource-allocation decisions are made entirely by one person; low scores imply wide participation.

3,9. Collegial Allocation. Both of these questions identify whether the decision process is collegial. The questions are highly correlated, so responses are likely to be very similar. High scores suggest that resource allocation is a matter for collegial discussion and consensus-building; low scores imply limited participation.

4,10. Rational Allocation. Questions 4 and 10 ask whether the resource-allocation process is rational. Question 10 concerns one aspect of the rational process, objectively matching resources with the needs of the institution. Again, the two questions are highly correlated. High scores suggest that respondents believe resources are being well-matched with institutional priorities and that

decisions are made in a sensible manner. Low scores imply a random, arbitrary, and unpredictable process.

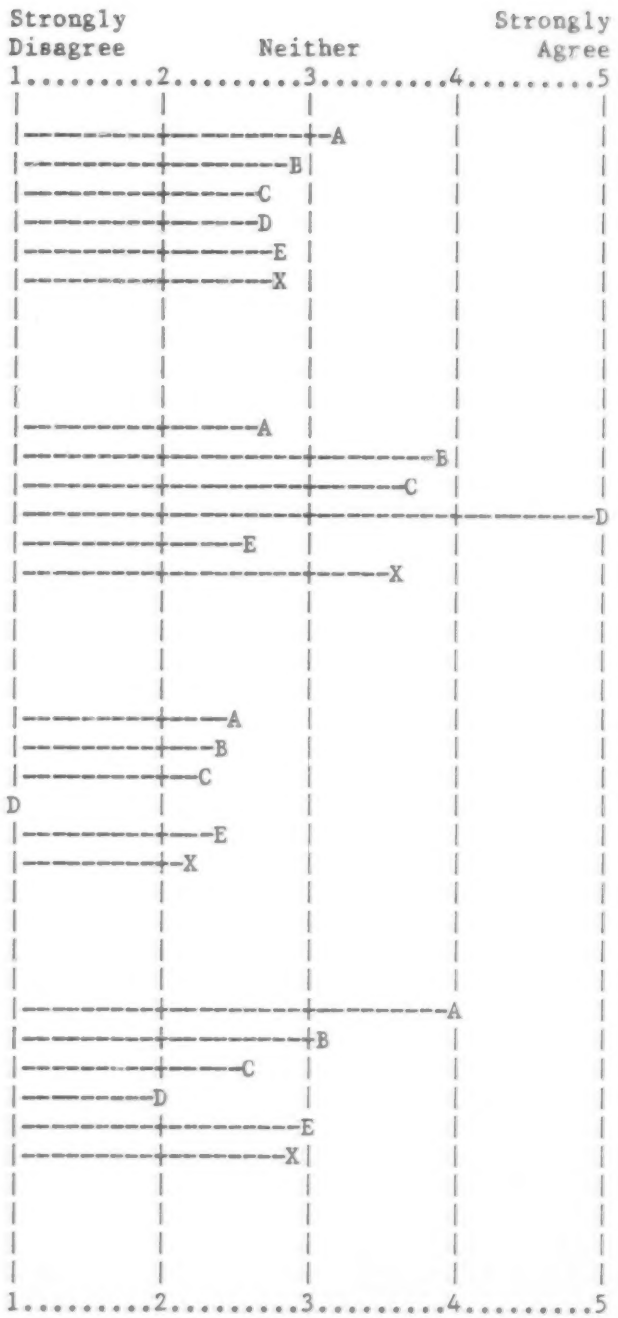
5,11. Allocation as Organized Anarchy. These two questions deal with a decision process that has been called organized anarchy. High scores suggest a very unpredictable, irregular decision process. Individuals may have difficulty determining how they could participate or what might result if they tried to participate. Question 11 implies even more chaos in the decision process. High scores on question 11 suggest that picking numbers out of a hat could approximate the results of the resource-allocation process. As might be expected, few institutions have high scores on this question.

6,12. Political Allocation. Questions 6 and 12 relate to a political decision process, but the two are not highly correlated. Question 6 focuses on the use of power and the imposition of decisions based on relative political strength. Question 12 concerns a more conciliatory negotiating style in which each party obtains some portion of what it wants. Most resource-allocation processes demonstrate some of these political characteristics, but they may or may not constitute the dominant mode of decisionmaking at your institution.

You can view the results from this section in three ways. First, examine the responses to each pair of questions listed above. Consider how high or low the responses are in that area and what respondents may have meant by their answers. Second, compare the pairs with one another to develop a rough rank-ordering of decision types on your campus. You might find, for example, that your resource-allocation process is seen as predominantly rational, with a strong political component and an element of bureaucratization. Third, examine whether answers vary among different categories of respondents. Do faculty members and administrators see the process in similar terms? If not, administrators may be perceiving their intended process instead of the real one. They also may not have adequately communicated the real process to the faculty.

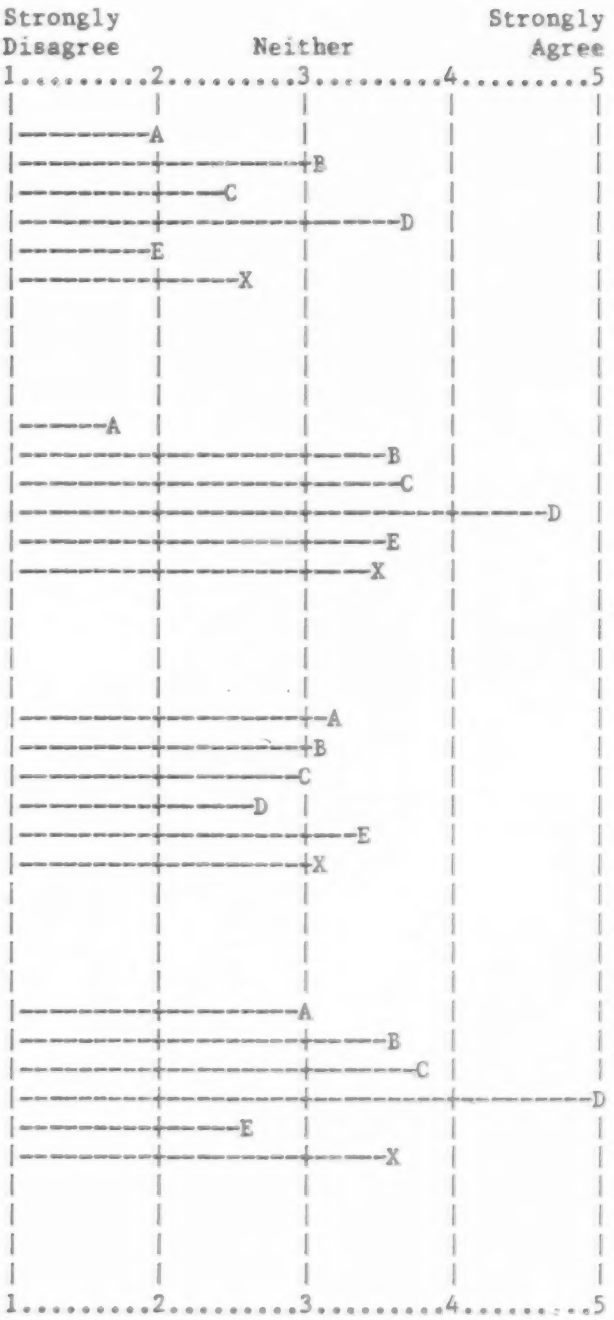
Elements of several processes are used in most institutions. The structure of the process is often bureaucratic, with the same procedures being followed faithfully every year. Political negotiations are almost always present in the process, yet most institutional members may believe that allocations are objectively best for the institution as a whole. The responses to this section can be used as the basis of an analysis of your own allocation process. Which parts of the process fit which models? How are spending proposals generated? What happens when it becomes clear that some budgets must be cut? The resulting analysis can prove helpful in defining why some parts of the process may be working well and others not.

Section 7: Resource Allocation



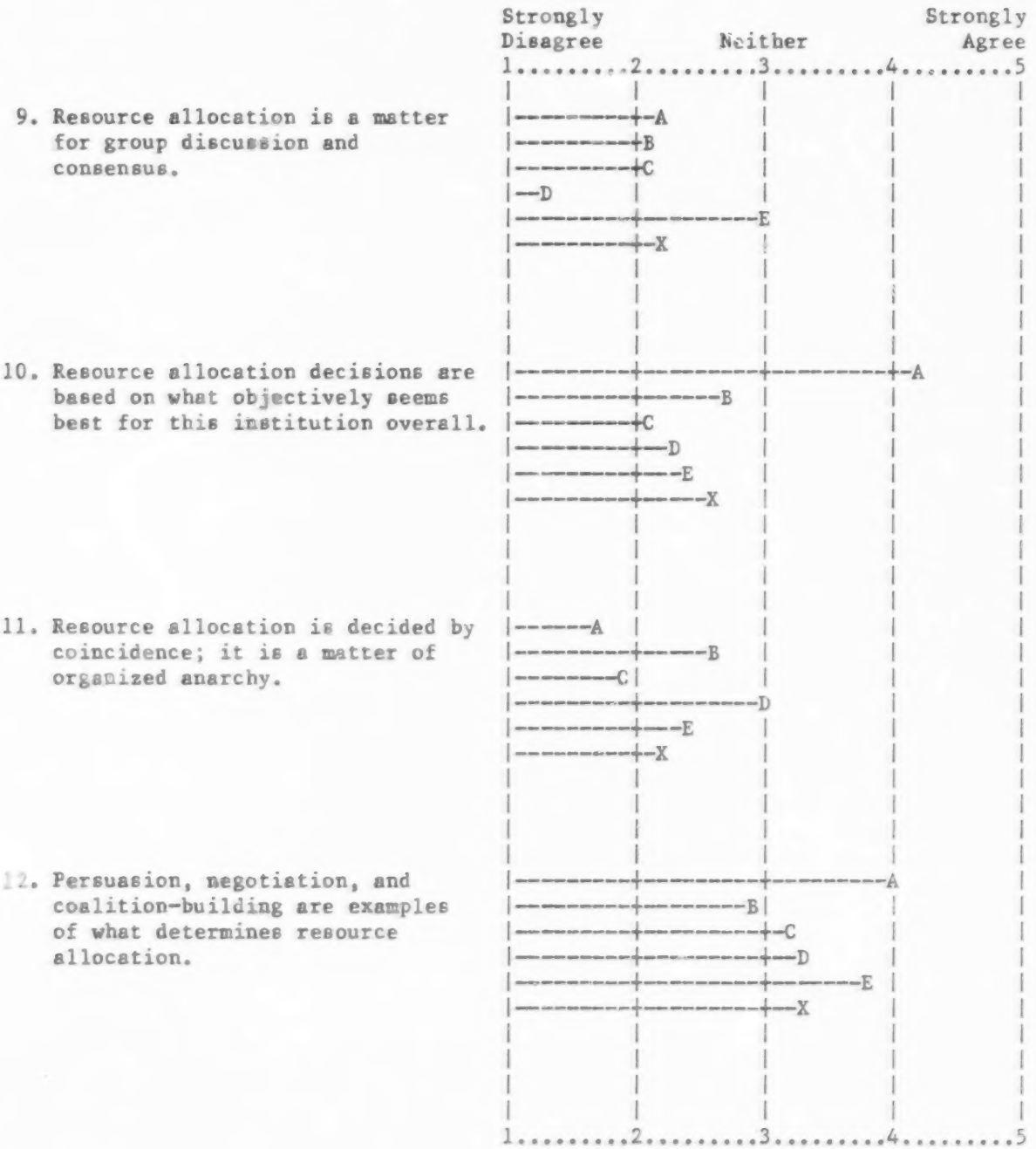

Key: A=Executive Administrators
B=Operations Administrators
C=Liberal Arts & Sci Faculty
D=Professional Sch Faculty
E=Phys&Biol Sci Faculty
X=All Respondents

Section 7: Resource Allocation (continued)


Strongly Disagree
Neither
Strongly Agree
1 2 3 4 5
5. No particular pattern characterizes the process by which resource allocation decisions are made here.
6. Resource allocation decisions are political, based on the relative power of those involved.
7. Resource allocation is decided bureaucratically at this institution.
8. Resource allocation is decided autocratically.

Key: A=Executive Administrators
B=Operations Administrators
C=Liberal Arts & Sci Faculty
D=Professional Sch Faculty
E=Phys&Biol Sci Faculty
X=All Respondents

Section 7: Resource Allocation (continued)




Key: A=Executive Administrators
B=Operations Administrators
C=Liberal Arts & Sci Faculty
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X=All Respondents

## SECTION 8: Institutional Effectiveness

The items in this section measure nine dimensions of institutional effectiveness. These questions were developed through a series of interviews in which top administrators, faculty department heads, and trustees were asked to identify characteristics associated with highly effective colleges and universities. They answered such questions as what would have to be done to improve the effectiveness of their own institution, what were the characteristics of the most effective college they knew of, and what factors in their own institution most affect its performance. From their responses a large number of criteria emerged regarding effectiveness. In turn, questions were constructed to assess those criteria. The questions have been used since 1975 in research on colleges and universities. They have been developed to the point where we have confidence that they measure institutional effectiveness in a valid and reliable way, if not the only good way.

The questionnaire items have been found to cluster into nine different groupings. These nine dimensions are briefly explained below.

| DIMENSION | EXPLANATION |
|---|---|
| Student Educational Satisfaction | Indicators focus on student satisfaction with their educational experiences at the institution. |
| Student Academic Development | Indicators focus on the extent to which the institution provides opportunities for student academic development. |
| Student Career Development | Indicators focus on the extent of vocational and occupational development among students and the opportunities for career training provided by the institution. |
| Student Personal Development | Indicators focus on the extent of nonacademic, noncareer development--for example, cultural, emotional, and social development--and the opportunities for and emphasis placed on personal development by the institution. |
| Faculty and Administrator Employment Satisfaction | Indicators focus on the satisfaction of faculty members and administrators with their employment. |
| Professional Development and Quality of the Faculty | Indicators focus on the extent of professional attainment and development of the faculty and the emphasis and opportunities for professional development provided by the institution. |

| | |
|---|---|
| System Openness and Community Interaction | Indicators focus on the extent of interaction with, adaptation to, and service for constituencies in the external environment. |
| Ability to Acquire Resources | Indicators focus on the ability of the institution to acquire resources, such as good students, desired faculty, financial backing, and political support. |
| Organizational Health | Indicators focus on the vitality and benevolence of internal processes in the institution, such as openness and trust, the ability to solve problems, and the willingness to share information. |

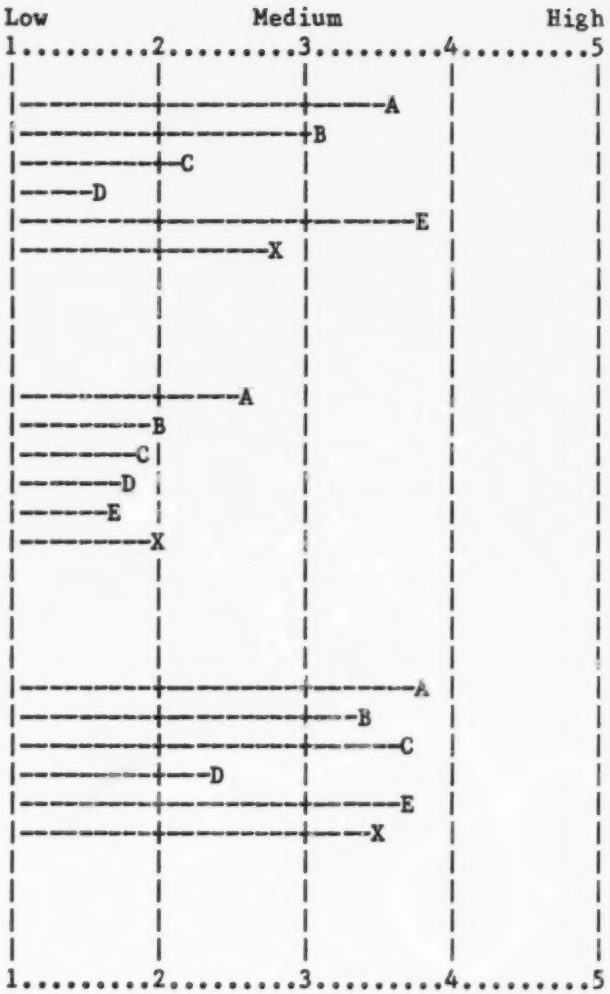
Research on a large number of four-year colleges and universities has shown that no institution scores high on all nine dimensions of effectiveness. Trade-offs are made by all institutions. The best way to interpret this information is to compare how you think your school ought to score, given its mission, with how it actually did score. Are the relative strengths and weaknesses indicated by the profile of the nine dimensions consistent with your preferences? Even though your school may be weak on some dimensions, they may be less important to you than those in which the institution does especially well. Therefore, the usefulness of your scores lies in determining whether your institution is highly effective in those areas in which you prefer it to be effective.

Section 8: Institutional Effectiveness

1. Student Educational Satisfaction: The degree to which students are satisfied with their educational experiences at the institution.

2. Student Academic Development: The degree of academic attainment, growth, and progress of students and the academic opportunities provided by the institution.

3. Student Career Development: The degree of occupational development of students and the emphasis and opportunities for career development provided by the institution.

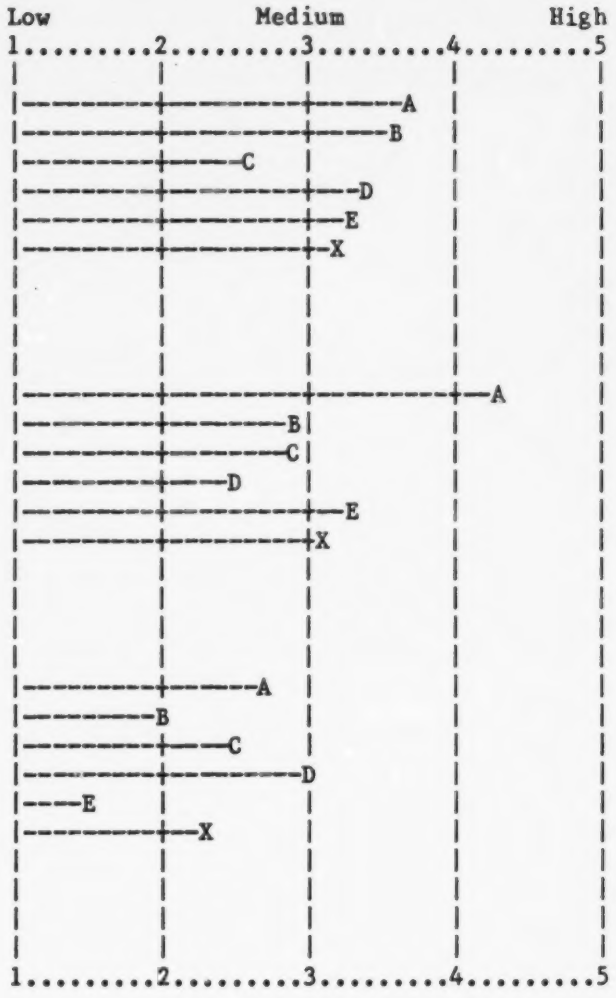



Key: A=Executive Administrators
B=Operations Administrators
C=Liberal Arts & Sci Faculty
D=Professional Sch Faculty
E=Phys&Biol Sci Faculty
X=All Respondents

4. Student Personal Development: The degree of nonacademic, noncareer development (e.g., culturally, socially) and the emphasis and opportunities for personal development provided by the institution.

5. Faculty and Administrator Employment Satisfaction: The satisfaction of faculty members and administrators with their employment.

6. Professional Development and Quality of the Faculty: The degree of professional attainment and development of the faculty and the emphasis and opportunities for professional development provided by the institution.

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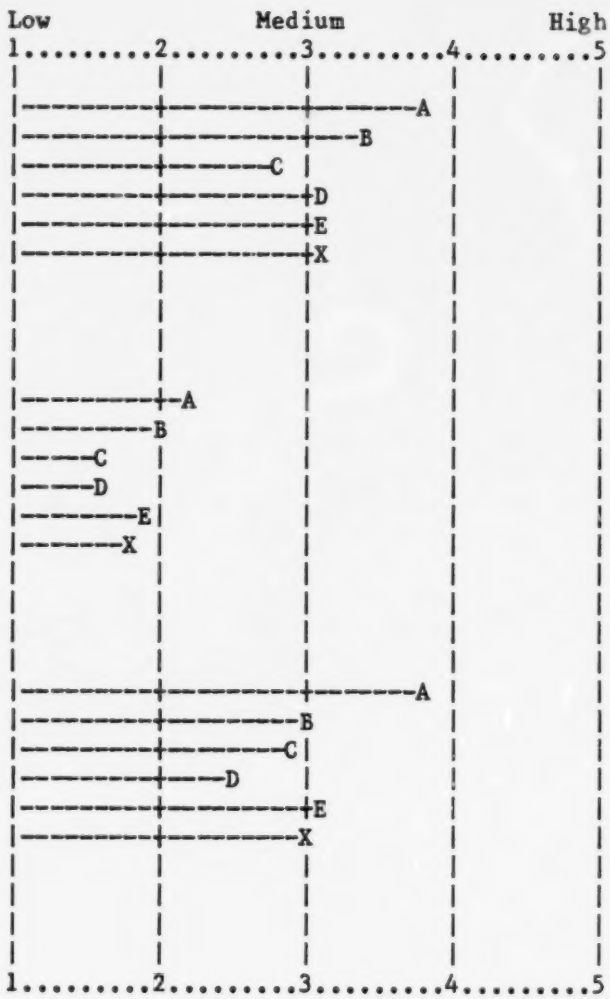
Section 8: Institutional Effectiveness (continued)

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X=All Respondents

# APPENDIX

## Institutional Performance Survey Instrument

# Institutional Performance Survey

National Center for Higher Education Management Systems
P.O. Drawer P
Boulder, CO 80302

Dear Respondent:

This questionnaire is part of an assessment your institution is undertaking with the assistance of the National Center for Higher Education Management Systems. The instrument is designed to provide information on the perceptions of various groups of individuals about the *overall* institution rather than about any one department or program.

The response of all individuals completing the survey will be held in the strictest confidence. The data will be analyzed at NCHEMS in Boulder, Colorado, and all individual responses will be aggregated into group scores. To further ensure the confidentiality of your responses, the questionnaire should be mailed directly back to NCHEMS. No envelope is required. Seal the questionnaire by placing a staple at the middle of the right edge of the booklet, and then drop it in the mail. Postage will be paid by NCHEMS.

Please complete the questionnaire at your earliest convenience. If possible, we would like the questionnaire returned within one week of when you receive it. Previous respondents have taken 20 to 30 minutes to complete the questionnaire. Despite its length, we hope that you find the questions interesting and thought-provoking. If you have any questions or comments, please feel free to contact Dr. Ray Zammuto or Dr. Jack Krakower at (303) 497-0388. Thank you for your cooperation.

## SECTION 1: Changes in the Institution's External Environment

**The following questions concern changes in conditions outside your institution over the past few years. Please circle the number to the right of each statement that best reflects your institution's experiences since 1979-80.**

| | Strongly Disagree | Disagree | Neither | Agree | Strongly Agree | |
|---|---|---|---|---|---|---|
| 1. Major factors outside our institution that affect its enrollments have become more predictable over the past few years. | 1 | 2 | 3 | 4 | 5 | —14 |
| 2. Major factors outside the institution that affect its revenues have become less predictable over the past few years. | 1 | 2 | 3 | 4 | 5 | —15 |
| 3. Competitive actions of other colleges and universities have become more predictable over the past few years. | 1 | 2 | 3 | 4 | 5 | —16 |
| 4. The tastes and preferences of students have become harder to forecast over the past few years. | 1 | 2 | 3 | 4 | 5 | —17 |
| 5. Competitive actions of other colleges and universities now affect this institution in more areas (e.g., price, programs, area served) than in the past. | 1 | 2 | 3 | 4 | 5 | —18 |
| 6. Competition with other colleges and universities for student enrollments has increased over the past few years. | 1 | 2 | 3 | 4 | 5 | —19 |
| 7. The number of potential students from whom our institution can recruit has increased over the past few years. | 1 | 2 | 3 | 4 | 5 | —20 |
| 8. Financial resources have become more difficult to obtain over the past few years. | 1 | 2 | 3 | 4 | 5 | —21 |

## SECTION 2: Institutional Enrollments

**This section is concerned with your institution's enrollment experiences over the past few years, and with what you think is likely to happen to enrollments next year.**

1. To the best of your knowledge, full-time equivalent enrollments at this institution have —23

   _____ (1) Increased by more than five percent over the past three years

   _____ (2) Remained stable over the past three years

   _____ (3) Decreased by more than five percent over the past three years

**The following questions ask you to speculate about institutional enrollments for the next year. Please circle the number to the right of each statement that best reflects your projection.**

| | Strongly Disagree | Disagree | Neither | Agree | Strongly Agree | |
|---|---|---|---|---|---|---|
| 2. Decreasing full-time equivalent enrollments are inevitable next year. | 1 | 2 | 3 | 4 | 5 | —24 |
| 3. There are actions the administration could take now to prevent enrollments from declining in the next year. | 1 | 2 | 3 | 4 | 5 | —25 |
| 4. Decreasing enrollments next year would be indicative of a short-term, rather than a long-term, problem for the institution. | 1 | 2 | 3 | 4 | 5 | —26 |
| 5. If enrollments were to decrease by more than five percent next year, the viability of the institution would be immediately threatened. | 1 | 2 | 3 | 4 | 5 | —27 |

## SECTION 3: Institutional Revenues

**This section is concerned with your institution's revenue experiences over the past few years, and what you think is likely to happen to total revenues next year.**

1. To the best of your knowledge, inflation-adjusted total revenues at this institution have —29

   _____ (1) Increased by more than five percent over the past three years

   _____ (2) Remained stable over the past three years

   _____ (3) Decreased by more than five percent over the past three years

**The following questions ask you to speculate about institutional revenues for the next year. Please circle the number to the right of each statement that best reflects your views.**

| | Strongly Disagree | Disagree | Neither | Agree | Strongly Agree | |
|---|---|---|---|---|---|---|
| 2. Decreasing inflation-adjusted total revenues are inevitable next year. | 1 | 2 | 3 | 4 | 5 | —30 |
| 3. There are actions the administration could take now to prevent total revenues from declining in the next year. | 1 | 2 | 3 | 4 | 5 | —31 |
| 4. Decreasing total revenues next year would be indicative of a short-term, rather than a long-term, problem for the institution. | 1 | 2 | 3 | 4 | 5 | —32 |
| 5. If total revenues were to decrease by more than five percent next year, the viability of the institution would be immediately threatened. | 1 | 2 | 3 | 4 | 5 | —33 |

## SECTION 4: Institutional Characteristics

**In this section, we are asking for your impressions of some general characteristics of your institution. Please answer each item. If you are not sure, make your best guess.**

| | Strongly Disagree | Disagree | Neither | Agree | Strongly Agree | |
|---|---|---|---|---|---|---|
| 1. This institution has many administrators performing specialized functions. | 1 | 2 | 3 | 4 | 5 | —34 |
| 2. Formal policies and rules govern most activities at this institution. | 1 | 2 | 3 | 4 | 5 | —35 |
| 3. This institution has a special identity, unlike any other in higher education. | 1 | 2 | 3 | 4 | 5 | —36 |
| 4. There is a general sense that this institution has a distinctive purpose to fulfill. | 1 | 2 | 3 | 4 | 5 | —37 |
| 5. The academic programs offered here reflect the mission of the institution. | 1 | 2 | 3 | 4 | 5 | —38 |
| 6. People associated with this institution share a common definition of its mission. | 1 | 2 | 3 | 4 | 5 | —39 |
| 7. Those who make a personal or financial investment in this institution believe that they receive an ample return. | 1 | 2 | 3 | 4 | 5 | —40 |
| 8. The activities of the various units in this institution are loosely coordinated or loosely coupled. | 1 | 2 | 3 | 4 | 5 | —41 |
| 9. Major decisions are very centralized. | 1 | 2 | 3 | 4 | 5 | —42 |
| 10. Long-term planning is neglected. | 1 | 2 | 3 | 4 | 5 | —43 |

## Institutional Characteristics (continued)

| | Strongly Disagree | Disagree | Neither | Agree | Strongly Agree | |
|---|---|---|---|---|---|---|
| 11. Innovative activity is increasing. | 1 | 2 | 3 | 4 | 5 | —44 |
| 12. Top administrators are often scape goats. | 1 | 2 | 3 | 4 | 5 | —45 |
| 13. There is a lot of resistance to change in this school. | 1 | 2 | 3 | 4 | 5 | —46 |
| 14. There is a great deal of turnover in administrative positions. | 1 | 2 | 3 | 4 | 5 | —47 |
| 15. Morale is increasing among members of this institution. | 1 | 2 | 3 | 4 | 5 | —48 |
| 16. We have no place that we could cut expenditures without severely damaging the school. | 1 | 2 | 3 | 4 | 5 | —49 |
| 17. Special interest groups within the institution are becoming more vocal. | 1 | 2 | 3 | 4 | 5 | —50 |
| 18. Top administrators have high credibility. | 1 | 2 | 3 | 4 | 5 | —51 |
| 19. When cutbacks occur, they are done on a prioritized basis. | 1 | 2 | 3 | 4 | 5 | —52 |
| 20. Conflict is increasing within this institution. | 1 | 2 | 3 | 4 | 5 | —53 |
| 21. Top administrators believe that factors outside the institution largely determine its condition. | 1 | 2 | 3 | 4 | 5 | —54 |
| 22. Top administrative positions are now held by individuals who were promoted from within the institution. | 1 | 2 | 3 | 4 | 5 | —55 |

## SECTION 5. Type of Institution

**These questions relate to the type of organization that your institution is most like. Each of these items contains four descriptions of institutions of higher education. Please distribute 100 points among the four descriptions depending on how *similar* the description is to your school. None of the descriptions is any better than the others; they are just different.** *For each question, please use all 100 points.*

*FOR EXAMPLE:*

In question 1, if institution A seems very similar to mine, B seems somewhat similar, and C and D do not seem similar at all, I might give 70 points to A and the remaining 30 points to B.

**. Institutional Characteristics** (Please distribute 100 points) _____

_____ points for A — Institution A is a very **personal** place. It is like an extended family. People seem to share a lot of themselves.

_____ points for B — Institution B is a very **dynamic** and entrepreneurial place. People are willing to stick their necks out and take risks.

_____ points for C — Institution C is a very **formalized and structured** place. Bureaucratic procedures generally govern what people do.

_____ points for D — Institution D is very **production oriented.** A major concern is with getting the job done. People aren't very personally involved. —57-58 59-60 61-62 63-64

**. Institutional Leader** (Please distribute 100 points) _____

_____ points for A — The head of institution A is generally considered to be a **mentor, a sage,** or a **father or mother figure.**

_____ points for B — The head of institution B is generally considered to be an **entrepreneur, an innovator,** or **a risk taker.**

_____ points for C — The head of institution C is generally considered to be a **coordinator,** an **organizer,** or an **administrator.**

_____ points for D — The head of institution D is generally considered to be a **producer,** a **technician,** or a **hard-driver.** —65-66 67-68 69-70 71-72

## Type of Institution (continued)

3. **Institutional "Glue"** (Please distribute 100 points)

_____ points for A — The glue that holds institution A together is **loyalty and tradition.** Commitment to this school runs high.

_____ points for B — The glue that holds institution B together is a **commitment to innovation and development.** There is an emphasis on being first.

_____ points for C — The glue that holds institution C together is **formal rules and policies.** Maintaining a smooth-running institution is important here.

_____ points for D — The glue that holds institution D together is the emphasis on **tasks and goal accomplishment.** A production orientation is commonly shared. —73-74 75-76 77-78 79-80

4. **Institutional Emphases** (Please distribute 100 points)

_____ points for A — Institution A emphasizes **human resources.** High cohesion and morale in the school are **important.**

_____ points for B — Institution B emphasizes **growth** and **acquiring new resources.** Readiness to meet new challenges is important.

_____ points for C — Institution C emphasizes **permanence and stability.** Efficient, smooth operations are important.

_____ points for D — Institution D emphasizes **competitive actions and achievement.** Measurable goals are important. —81-82 83-84 85-86 87-88

## SECTION 6: Institutional Strategy

**The following section deals with the strategy your institution is pursuing. Please indicate the extent to which you agree or disagree with each item, based on your own perceptions.**

| | Strongly Disagree | Disagree | Neither | Agree | Strongly Agree | |
|---|---|---|---|---|---|---|
| 1. We are making our academic programs more diverse. | 1 | 2 | 3 | 4 | 5 | —90 |
| 2. We are changing the composition of our student body, making it more diverse. | 1 | 2 | 3 | 4 | 5 | —91 |
| 3. We are increasing the investment of the college in functions that deal with external people (admissions, development, government relations, and others). | 1 | 2 | 3 | 4 | 5 | —92 |
| 4. This institution tries to insulate itself from pressures in the environment. | 1 | 2 | 3 | 4 | 5 | —93 |
| 5. This institution tries new activities or policies, but not until after others have found them successful. | 1 | 2 | 3 | 4 | 5 | —94 |
| 6. This institution is likely to be the first to try new activities or policies. | 1 | 2 | 3 | 4 | 5 | —95 |
| 7. Our top administrators educate important outsiders about the value of the institution in order to improve its legitimacy in their eyes. | 1 | 2 | 3 | 4 | 5 | —96 |
| 8. This institution tends to do more of what it does well, to expand in areas where we have expertise. | 1 | 2 | 3 | 4 | 5 | —97 |
| 9. This institution establishes new domains of activity. | 1 | 2 | 3 | 4 | 5 | —98 |
| 10. We are increasing the quality of the individuals in top administrative positions. | 1 | 2 | 3 | 4 | 5 | —99 |
| 11. Top administrators emphasize finding new money, more so than saving money, for a balanced budget. | 1 | 2 | 3 | 4 | 5 | —100 |
| 12. The top administrative team has developed multi-year stategies to achieve long-term institutional objectives. | 1 | 2 | 3 | 4 | 5 | —101 |
| 13. The top administrative team receives rapid and accurate feedback about enrollment and financial conditions. | 1 | 2 | 3 | 4 | 5 | —102 |
| 14. The top administrative team provides incentives for conserving resources. | 1 | 2 | 3 | 4 | 5 | —103 |

## SECTION 7: Institutional Decision Processes

**The following questions deal with the decision process used at the institution for allocating resources—whether the resources are staff positions, dollars, space, or other valuable items. Please indicate the extent to which you agree or disagree with each item.**

| | Strongly Disagree | Disagree | Neither | Agree | Strongly Agree | |
|---|---|---|---|---|---|---|
| 1. This institution has a standard set of procedures it uses to make resource allocation decisions. | 1 | 2 | 3 | 4 | 5 | —105 |
| 2. One individual at this institution makes all resource allocation decisions of any consequence. | 1 | 2 | 3 | 4 | 5 | —106 |
| 3. People at this institution make resource allocation decisions collegially. | 1 | 2 | 3 | 4 | 5 | —107 |
| 4. A rational process is used to make resource allocation decisions at this institution. | 1 | 2 | 3 | 4 | 5 | —108 |
| 5. No particular pattern characterizes the process by which resource allocation decisions are made here. | 1 | 2 | 3 | 4 | 5 | —109 |
| 6. Resource allocation decisions are political, based on the relative power of those involved. | 1 | 2 | 3 | 4 | 5 | —110 |
| 7. Resource allocation is decided bureaucratically at this institution. | 1 | 2 | 3 | 4 | 5 | —111 |
| 8. Resource allocation is decided autocratically. | 1 | 2 | 3 | 4 | 5 | —112 |
| 9. Resource allocation is a matter for group discussion and consensus. | 1 | 2 | 3 | 4 | 5 | —113 |
| 10. Resource allocation decisions are based on what objectively seems best for this institution overall. | 1 | 2 | 3 | 4 | 5 | —114 |
| 11. Resource allocation is decided by coincidence; it is a matter of organized anarchy. | 1 | 2 | 3 | 4 | 5 | —115 |
| 12. Persuasion, negotiation, and coalition-building are examples of what determines resource allocation. | 1 | 2 | 3 | 4 | 5 | —116 |

## SECTION 8: Performance and Actions of the Institution

**The items in this section ask about the performance and actions of your institution. If you are not sure of the item, please make your best guess.**

**To what extent are the following characteristics typical of this institution?**

| | Strongly Disagree | Disagree | Neither | Agree | Strongly Agree | |
|---|---|---|---|---|---|---|
| 1. One of the outstanding features of this institution is the opportunity it provides students for personal development in addition to academic development. | 1 | 2 | 3 | 4 | 5 | —118 |
| 2. This college is highly responsive and adaptive to meeting the changing needs of its external constituencies. | 1 | 2 | 3 | 4 | 5 | —119 |
| 3. This college has a very high ability to obtain financial resources in order to provide a high quality educational program. | 1 | 2 | 3 | 4 | 5 | —120 |
| 4. When hiring new faculty members, this college can attract the leading people in the country in their respective fields to take a job here. | 1 | 2 | 3 | 4 | 5 | —121 |
| 5. There seems to be a feeling that dissatisfaction is high among students at this institution. | 1 | 2 | 3 | 4 | 5 | —122 |
| 6. There have been relatively large numbers of students either drop out or not return because of dissatisfaction with their educational experiences here. | 1 | 2 | 3 | 4 | 5 | —123 |
| 7. I am aware of a large number of student complaints regarding their educational experience here as registered in the campus newspaper, meetings with faculty members and administrators, or other public forums. | 1 | 2 | 3 | 4 | 5 | —124 |

## Performance and Actions of the Institution (continued)

| | Strongly Disagree | Disagree | Neither | Agree | Strongly Agree | |
|---|---|---|---|---|---|---|
| 8. There is a very high emphasis on activities outside the classroom designed specifically to enhance students' **personal, non-academic** development. | 1 | 2 | 3 | 4 | 5 | —125 |
| 9. There is a very high emphasis on institution-community or institution-environment activities. | 1 | 2 | 3 | 4 | 5 | —126 |
| 10. Students develop and mature in non-academic areas (e.g., socially, emotionally, culturally) to a very large degree directly as a result of their experiences at this institution. | 1 | 2 | 3 | 4 | 5 | —127 |
| 11. A very large number of community-oriented programs, workshops, projects, or activities were sponsored by this institution last year. | 1 | 2 | 3 | 4 | 5 | —128 |

12. Think of last year's graduating class at this institution. Please rate the academic attainment or academic level achieved by that class as a whole. (Select one)

_____ 1) That class is among the very top classes in the country.
_____ 2) That class is above average.
_____ 3) That class is about average.
_____ 4) That class is below average.
_____ 5) That class is near the bottom of classes across the country. —130

13. Estimate what percent of the graduates from this institution go on to obtain degrees in graduate or professional schools.

_____ 1) From 91% to 100% of the students here go on for advanced degrees.
_____ 2) From 61% to 90% go on.
_____ 3) From 46% to 60% go on.
_____ 4) From 16% to 45% go on.
_____ 5) From 0 to 15% go on to obtain advanced degrees. —131

**Please use the following scale in responding to the following questions**

1—A small minority 2—Less than half 3—About half 4—More than half 5—A large majority

14. _____ How many students would you say engage in extra academic work (e.g., reading, studying, writing) over and above what is specifically assigned in the classroom. —132

15. _____ What proportion of the students who graduated from this institution last year and entered the labor market obtained employment in their major field of study? —133

16. _____ How many students would you say attend this college to fulfill definite career or occupational goals as opposed to attending for social, athletic, financial, or other reasons? —134

17. _____ Of those students who obtained employment after graduating from this institution, for how many of them was career training received at this institution important in helping them obtain their jobs? —135

18. _____ If given the chance of taking a similar job at another school of his or her choice, how many faculty members do you think would opt for leaving this school? —136

19. _____ If given the chance of taking a similar job at another school of his or her choice, how many administrators do you think would opt for leaving this school? —137

20. _____ Estimate how many faculty members at this institution are personally satisfied with their employment. —138

21. _____ Estimate how many administrators at this college are personally satisfied with their employment. —139

## Performance and Actions of the Institution (continued)

22. _____ How many faculty members at this institution would you say published a book or an article in a professional journal, or displayed a work of art in a show last year? —140

23. _____ What proportion of the faculty members would you estimate teach at the "cutting edge" of their field—i.e., require current journal articles as reading, revise syllabi at least yearly, discuss current issues in the field, etc.? —141

24. _____ How many faculty members at this college are actively engaged now in professional development activities—e.g., doing research, getting an advanced degree, consulting, etc.? —142

25. _____ Colleges may be rated on the basis of their relative "drawing power" in attracting top high school students. In relation to other colleges with which it competes, what proportion of the top students attend this institution rather than the competition? —143

This section asks you to rate your perceptions of the general day-to-day functioning of the overall institution. Please respond by circling the number that best represents your perceptions of each item. If you agree strongly with one end of the scale, circle a number closer to that end of the scale. If you feel neutral about the item, circle a number near the middle of the scale.

*FOR EXAMPLE:*

**How is the weather in this town?**

warm, bright, and sunny 1 (2) 3 4 5 cold, wet, and dismal

**How do you perceive the following?**

26. **Student/faculty relationships**
unusual closeness, lots of informal interaction, mutual personal concern 1 2 3 4 5 no closeness, mostly instrumental relations, little informal interaction —144

27. **Equity of treatment and rewards**
people treated fairly and rewarded equitably 1 2 3 4 5 favoritism and inequity present, unfair treatment exists —145

28. **Organizational health of the college**
college runs smoothly, healthy organization, productive internal functioning 1 2 3 4 5 college runs poorly, unhealthy organization, unproductive internal functioning —146

29. **General levels of trust among people here**
high suspicion, fear, distrust, insecurity 1 2 3 4 5 high trust, security, openness —147

30. **Conflicts and friction in the college**
large amount of conflict, disagreements, anxiety, friction 1 2 3 4 5 no friction or conflicts, friendly, collaborative —148

31. **Recognition and rewards received for good work from superiors**
recognition received for good work, rewarded for success 1 2 3 4 5 no rewards for good work, no one recognizes success —149

32. **The amount of information or feedback you receive**
feel informed, in-the-know, information is always available 1 2 3 4 5 feel isolated, out-of-it, information is never available —150

## SECTION 9: Respondent Demographics

**These items ask for some personal demographic information. This information will not be used to try to identify you, rather it simply will help us in our analysis of the questionnaire data. Please answer each item.**

1. How many years of age are you?_____ —152 153

2. In how many educational organizations have you worked in your professional career?_____ —154 155

3. How many years have you held your current position? _____ —156 157

4. Are you male·_____ or female _____ ? —158

5. Have you received degrees (i.e., bachelors, masters, or doctorate) in any of the following fields? (please check all that apply)

_____ 1) Business administration
_____ 2) Educational administration
_____ 3) Public administration
_____ 4) Health Care administration
_____ 5) Personnel or Industrial administration
_____ 6) Other administration fields —159

6. In what field did you receive your last degree?

_____ 1) Humanities (e.g., literature, languages)
_____ 2) Fine Arts (e.g., music, sculpture)
_____ 3) Physical Sciences (e.g., physics, chemistry)
_____ 4) Biological Sciences (e.g., zoology, botany)
_____ 5) Social Sciences (e.g., sociology economics)
_____ 6) Mathematics and Computer Sciences
_____ 7) Professional Fields (e.g., law, engineering)
_____ 8) Administration Fields (educational, business)
_____ 9) Other _____ —160

7. How many years have you been affiliated with this institution? _____ —161 162

8. What is your highest academic degree?

_____ 1) Doctorate or other terminal degree
_____ 2) Masters
_____ 3) Bachelors
_____ 4) Associate —163

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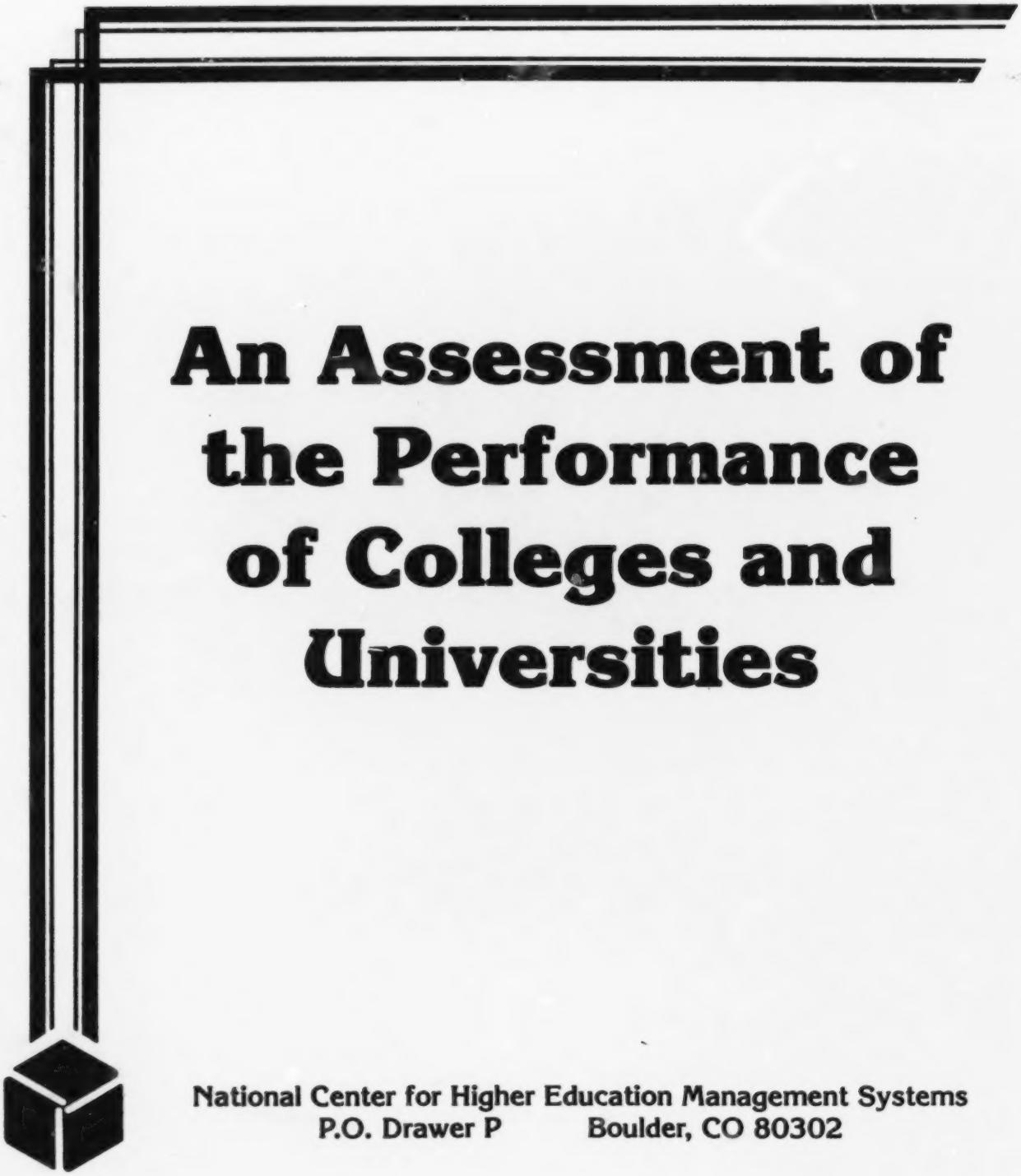
**Please use the space below for any comments you have about our college, this questionnaire, or anything else you care to share with us.**



# An Assessment of the Performance of Colleges and Universities

National Center for Higher Education Management Systems
P.O. Drawer P Boulder, CO 80302

Dear Respondent:

This questionnaire is part of a national study of performance in colleges and universities conducted by the National Center for Higher Education Management Systems. Several administrators, faculty department heads, and trustees at your institution are completing this instrument. You were selected as a respondent because of the position you hold at this school.

We are seeking your perceptions of the *overall* institution rather than information about one particular department or program. The responses of all individuals will remain strictly confidential. The data will be analyzed at NCHEMS in Boulder, Colorado, and all individual responses will be aggregated. In addition, the name of your institution will be revealed only to individuals at your school in the feedback reports to be provided at the conclusion of the study. You will be able to compare your institution with other similar schools, but the other schools will be described on the basis of their general characteristics, not by name.

The questionnaire is designed to be mailed back to NCHEMS without needing an envelope. On the back cover is printed the address of NCHEMS, along with a sticker identifying your institution as the return address. Just seal up the questionnaire and drop it in the mail. We will pay the return postage. You will find three peel-off stickers included with the questionnaire for your use in sealing up the questionnaire prior to mailing it.

Please complete the questionnaire at your earliest convenience; if possible, we would like it within 10 days of when you received it. Previous respondents have averaged 20 minutes to complete the questionnaire, so despite its length, we hope you find the questions interesting and thought-provoking. If you have questions or comments, please feel free to contact Dr. Kim Cameron at (303) 497-0368. Thank you in advance for your cooperation.

## SECTION 1: Changes in the Institution's External Environment

**The following questions concern changes in conditions outside your institution over the past few years. Please circle the number to the right of each statement that best reflects your institution's experiences since 1979-80.**

| | Strongly Disagree | Disagree | Neither | Agree | Strongly Agree | |
|---|---|---|---|---|---|---|
| 1. Major factors outside our institution that affect its enrollments have become more predictable over the past few years. | 1 | 2 | 3 | 4 | 5 | —10 |
| 2. Major factors outside the institution that affect its revenues have become less predictable over the past few years. | 1 | 2 | 3 | 4 | 5 | —11 |
| 3. Competitive actions of other colleges and universities have become more predictable over the past few years. | 1 | 2 | 3 | 4 | 5 | —12 |
| 4. The tastes and preferences of students have become harder to forecast over the past few years. | 1 | 2 | 3 | 4 | 5 | —13 |
| 5. Competitive actions of other colleges and universities now affect this institution in more areas (e.g., price, programs, area served) than in the past. | 1 | 2 | 3 | 4 | 5 | —14 |
| 6. Competition with other colleges and universities for student enrollments has increased over the past few years. | 1 | 2 | 3 | 4 | 5 | —15 |
| 7. The number of potential students from whom our institution can recruit has increased over the past few years. | 1 | 2 | 3 | 4 | 5 | —16 |
| 8. Financial resources have become more difficult to obtain over the past few years. | 1 | 2 | 3 | 4 | 5 | —17 |

## SECTION 2: Decreasing Enrollments

**This section is concerned with whether your institution has experienced decreasing full-time equivalent enrollments during any of the academic years since 1979-80.**

1. To the best of your knowledge, did full-time equivalent student enrollments decrease from one year to the next during any of the academic years from 1979-80 to 1982-83?

_____ (1) Yes
_____ (2) No —19

If you answered "no" to the above question, please skip to Section 3 on the following page. If you answered "yes," please complete the remaining items in this section.

2. Please check the years in which you believe that full-time equivalent enrollments decreased from those of the previous year.

_____ 197[illegible]0 _____ 1980-81 _____ 1981-82 _____ 1982-83 —20-21 22-23

**Please circle the number to the right of each statement that best reflects your institution's experiences during its most recent episode of decreasing enrollments.**

| | Strongly Disagree | Disagree | Neither | Agree | Strongly Agree | |
|---|---|---|---|---|---|---|
| 3. Decreasing enrollments were inevitable at that time. | 1 | 2 | 3 | 4 | 5 | —24 |
| 4. Decreasing enrollments presented an immediate threat to the viability of this institution. | 1 | 2 | 3 | 4 | 5 | —25 |
| 5. Predictions of decreasing enrollments provided adequate lead time to take actions that minimized their impact. | 1 | 2 | 3 | 4 | 5 | —26 |
| 6. Decreasing enrollments were a short-term problem. | 1 | 2 | 3 | 4 | 5 | —27 |

7. Please indicate in the space below the major factors that caused enrollments to decrease at your institution. —28-29 30-31 32-33

## SECTION 3: Decreasing Revenues

**This section is concerned with whether your institution has experienced decreasing revenues, adjusted for inflation, during any of the academic years since 1979-80.**

1. To the best of your knowledge, did revenues, adjusted for inflation, decrease from one year to the next during any of the academic years from 1979-80?

_____ (1) Yes

_____ (2) No —35

If you answered "no" to the above question, please skip to Section 4, which begins on this page. If you answered "yes," please complete the remaining items in this section.

2. Please check the years in which you believe that revenues, adjusted for inflation, decreased from those of the previous year.

_____ 1979-80 _____ 1980-81 _____ 1981-82 _____ 1982-83 —36-37 38-39

**Please circle the number to the right of each statement that best reflects your institution's experiences during its most recent episode of decreasing revenues.**

| | Strongly Disagree | Disagree | Neither | Agree | Strongly Agree | |
|---|---|---|---|---|---|---|
| 3. Decreasing revenues were inevitable at that time. | 1 | 2 | 3 | 4 | 5 | —40 |
| 4. Decreasing revenues presented an immediate threat to the viability of the institution. | 1 | 2 | 3 | 4 | 5 | —41 |
| 5. Predictions of decreasing revenues provided adequate lead time to take actions that minimized their impact. | 1 | 2 | 3 | 4 | 5 | —42 |
| 6. Decreasing revenues were a short-term problem. | 1 | 2 | 3 | 4 | 5 | —43 |

7. Please indicate in the space below the major factors that caused revenues to decrease at your institution.

_____ —44-45 46-47 48-49

## SECTION 4: Institutional Characteristics

**In this section, we are asking for your impressions of some general characteristics of your institution. Please answer each item. If you are not sure, make your best guess.**

| | Strongly Disagree | Disagree | Neither | Agree | Strongly Agree | |
|---|---|---|---|---|---|---|
| 1. This institution has many administrators performing specialized functions. | 1 | 2 | 3 | 4 | 5 | —51 |
| 2. Formal policies and rules govern most activities at this institution. | 1 | 2 | 3 | 4 | 5 | —52 |
| 3. This institution has a special identity, unlike any other in higher education. | 1 | 2 | 3 | 4 | 5 | —53 |
| 4. There is a general sense that this institution has a distinctive purpose to fulfill. | 1 | 2 | 3 | 4 | 5 | —54 |
| 5. The academic programs offered here reflect the mission of the institution. | 1 | 2 | 3 | 4 | 5 | —55 |
| 6. People associated with this institution share a common definition of its mission. | 1 | 2 | 3 | 4 | 5 | —56 |
| 7. Those who make a personal or financial investment in this institution believe that they receive an ample return. | 1 | 2 | 3 | 4 | 5 | —57 |
| 8. The activities of the various units in this institution are loosely coordinated or loosely coupled. | 1 | 2 | 3 | 4 | 5 | —58 |
| 9. Major decisions are very centralized. | 1 | 2 | 3 | 4 | 5 | —59 |
| 10. Long-term planning is neglected. | 1 | 2 | 3 | 4 | 5 | —60 |

## Institutional Characteristics (continued)

| | Strongly Disagree | Disagree | Neither | Agree | Strongly Agree | |
|---|---|---|---|---|---|---|
| 11. Innovative activity is increasing. | 1 | 2 | 3 | 4 | 5 | —61 |
| 12. Top administrators are often scape goats. | 1 | 2 | 3 | 4 | 5 | —62 |
| 13. There is a lot of resistance to change in this school. | 1 | 2 | 3 | 4 | 5 | —63 |
| 14. There is a great deal of turnover in administrative positions. | 1 | 2 | 3 | 4 | 5 | —64 |
| 15. Morale is increasing among members of this institution. | 1 | 2 | 3 | 4 | 5 | —65 |
| 16. We have no place that we could cut expenditures without severely damaging the school. | 1 | 2 | 3 | 4 | 5 | —66 |
| 17. Special interest groups within the institution are becoming more vocal. | 1 | 2 | 3 | 4 | 5 | —67 |
| 18. Top administrators have high credibility. | 1 | 2 | 3 | 4 | 5 | —68 |
| 19. When cutbacks occur, they are done on a prioritized basis. | 1 | 2 | 3 | 4 | 5 | —69 |
| 20. Conflict is increasing within this institution. | 1 | 2 | 3 | 4 | 5 | —70 |
| 21. Top administrators believe that factors outside the institution largely determine its condition. | 1 | 2 | 3 | 4 | 5 | —71 |
| 22. Top administrative positions are now held by individuals who were promoted from within the institution. | 1 | 2 | 3 | 4 | 5 | —72 |

## SECTION 5. Type of Institution

**These questions relate to the type of organization that your institution is most like. Each of these items contains four descriptions of institutions of higher education. Please distribute 100 points among the four descriptions depending on how *similar* the description is to your school. None of the descriptions is any better than the others; they are just different.** *For each question, please use all 100 points.*

*FOR EXAMPLE:*

In question 1, if institution A seems very similar to mine, B seems somewhat similar, and C and D do not seem similar at all, I might give 70 points to A and the remaining 30 points to B.

1. **Institutional Characteristics** (Please distribute 100 points) _____

_____ points for A — Institution A is a very **personal** place. It is like an extended family. People seem to share a lot of themselves.

_____ points for B — Institution B is a very **dynamic** and entrepreneurial place. People are willing to stick their necks out and take risks.

_____ points for C — Institution C is a very **formalized and structured** place. Bureaucratic procedures generally govern what people do.

_____ points for D — Institution D is very **production oriented.** A major concern is with getting the job done. People aren't very personally involved. —74-75 76-77 78-79 80-81

2. **Institutional Leader** (Please distribute 100 points) _____

_____ points for A — The head of institution A is generally considered to be a **mentor,** a **sage,** or a **father or mother figure.**

_____ points for B — The head of institution B is generally considered to be an **entrepreneur,** an **innovator,** or a **risk taker.**

_____ points for C — The head of institution C is generally considered to be a **coordinator,** an **organizer,** or an **administrator.**

_____ points for D — The head of institution D is generally considered to be a **producer,** a **technician,** or a **hard-driver.** —82-83 84-85 86-87 88-89

## Type of Institution (continued)

3. **Institutional "Glue"** (Please distribute 100 points)

_____ points for A — The glue that holds institution A together is **loyalty and tradition.** Commitment to this school runs high.

_____ points for B — The glue that holds institution B together is a **commitment to innovation and development.** There is an emphasis on being first.

_____ points for C — The glue that holds institution C together is **formal rules and policies.** Maintaining a smooth-running institution is important here.

_____ points for D — The glue that holds institution D together is the emphasis on **tasks and goal accomplishment.** A production orientation is commonly shared. —90-91 92-93 94-95 96-97

4. **Institutional Emphases** (Please distribute 100 points)

_____ points for A — Institution A emphasizes **human resources.** High cohesion and morale in the school are **important.**

_____ points for B — Institution B emphasizes **growth** and **acquiring new resources.** Readiness to meet new challenges is important.

_____ points for C — Institution C emphasizes **permanence and stability.** Efficient, smooth operations are important.

_____ points for D — Institution D emphasizes **competitive actions and achievement.** Measurable goals are important. —98-99- 100-101 102-103 104-105

## SECTION 6: Institutional Strategy

**The following section deals with the strategy your institution is pursuing. Please indicate the extent to which you agree or disagree with each item, based on your own perceptions.**

| | Strongly Disagree | Disagree | Neither | Agree | Strongly Agree | |
|---|---|---|---|---|---|---|
| 1. We are making our academic programs more diverse. | 1 | 2 | 3 | 4 | 5 | —107 |
| 2. We are changing the composition of our student body, making it more diverse. | 1 | 2 | 3 | 4 | 5 | —108 |
| 3. We are increasing the investment of the college in functions that deal with external people (admissions, development, government relations, and others). | 1 | 2 | 3 | 4 | 5 | —109 |
| 4. This institution tries to insulate itself from pressures in the environment. | 1 | 2 | 3 | 4 | 5 | —110 |
| 5. This institution tries new activities or policies, but not until after others have found them successful. | 1 | 2 | 3 | 4 | 5 | —111 |
| 6. This institution is likely to be the first to try new activities or policies. | 1 | 2 | 3 | 4 | 5 | —112 |
| 7. Our top administrators educate important outsiders about the value of the institution in order to improve its legitimacy in their eyes. | 1 | 2 | 3 | 4 | 5 | —113 |
| 8. This institution tends to do more of what it does well, to expand in areas we have expertise. | 1 | 2 | 3 | 4 | 5 | —114 |
| 9. This institution establishes new domains of activity. | 1 | 2 | 3 | 4 | 5 | —115 |
| 10. We are increasing the quality of the individuals in top administrative positions. | 1 | 2 | 3 | 4 | 5 | —116 |
| 11. Top administrators emphasize finding new money, more so than saving money, for a balanced budget. | 1 | 2 | 3 | 4 | 5 | —117 |
| 12. The top administrative team has developed multi-year stategies to achieve long-term institutional objectives. | 1 | 2 | 3 | 4 | 5 | —118 |
| 13. The top administrative team receives rapid and accurate feedback about enrollment and financial conditions. | 1 | 2 | 3 | 4 | 5 | —119 |
| 14. The top administrative team provides incentives for conserving resources. | 1 | 2 | 3 | 4 | 5 | —120 |

## Institutional Strategy (continued)

15. Of the four actions listed below, which one is the **most likely** response of this institution to changes in the outside world? (check one response)

    _____ 1. Change the institution's policies and procedures
    _____ 2. Change the institution's image through communication
    _____ 3. Change the kinds of students, suppliers, or donors we deal with
    _____ 4. Weather any storm, making no changes —121

16. Of the four actions listed below, which one is the **least likely** response of this institution to changes in the outside world? (check one response)

    _____ 1. Change the institution's policies and procedures
    _____ 2. Change the institution's image through communication
    _____ 3. Change the kinds of students, suppliers, or donors we deal with
    _____ 4. Weather any storm, making no changes —122

## SECTION 7: Institutional Decision Processes

**The following questions deal with the decision process used at the institution for allocating resources—whether the resources are staff positions, dollars, space, or other valuable items. Please indicate the extent to which you agree or disagree with each item.**

| | Strongly Disagree | Disagree | Neither | Agree | Strongly Agree | |
|---|---|---|---|---|---|---|
| 1. This institution has a standard set of procedures it uses to make resource allocation decisions. | 1 | 2 | 3 | 4 | 5 | —124 |
| 2. One individual at this institution makes all resource allocation decisions of any consequence. | 1 | 2 | 3 | 4 | 5 | —125 |
| 3. People at this institution make resource allocation decisions collegially. | 1 | 2 | 3 | 4 | 5 | —126 |
| 4. A rational process is used to make resource allocation decisions at this institution. | 1 | 2 | 3 | 4 | 5 | —127 |
| 5. No particular pattern characterizes the process by which resource allocation decisions are made here. | 1 | 2 | 3 | 4 | 5 | —128 |
| 6. Resource allocation decisions are political, based on the relative power of those involved. | 1 | 2 | 3 | 4 | 5 | —129 |
| 7. Resource allocation is decided bureaucratically at this institution. | 1 | 2 | 3 | 4 | 5 | —130 |
| 8. Resource allocation is decided autocratically. | 1 | 2 | 3 | 4 | 5 | —131 |
| 9. Resource allocation is a matter for group discussion and consensus. | 1 | 2 | 3 | 4 | 5 | —132 |
| 10. Resource allocation decisions are based on what objectively seems best for this institution overall. | 1 | 2 | 3 | 4 | 5 | —133 |
| 11. Resource allocation is decided by coincidence; it is a matter of organized anarchy. | 1 | 2 | 3 | 4 | 5 | —134 |
| 12. Persuasion, negotiation, and coalition-building are examples of what determines resource allocation. | 1 | 2 | 3 | 4 | 5 | —135 |

## SECTION 8: Performance and Actions of the Institution

**The items in this section ask about the performance and actions of your institution. If you are not sure of the item, please make your best guess.**

**To what extent are the following characteristics typical of this institution?**

| | Strongly Disagree | Disagree | Neither | Agree | Strongly Agree | |
|---|---|---|---|---|---|---|
| 1. One of the outstanding features of this institution is the opportunity it provides students for personal development in addition to academic development. | 1 | 2 | 3 | 4 | 5 | —137 |
| 2. This college is highly responsive and adaptive to meeting the changing needs of its external constituencies. | 1 | 2 | 3 | 4 | 5 | —138 |
| 3. This college has a very high ability to obtain financial resources in order to provide a high quality educational program. | 1 | 2 | 3 | 4 | 5 | —139 |
| 4. When hiring new faculty members, this college can attract the leading people in the country in their respective fields to take a job here. | 1 | 2 | 3 | 4 | 5 | —140 |
| 5. There seems to be a feeling that dissatisfaction is high among students at this institution. | 1 | 2 | 3 | 4 | 5 | —141 |
| 6. There have been relatively large numbers of students either drop out or not return because of dissatisfaction with their educational experiences here. | 1 | 2 | 3 | 4 | 5 | —142 |
| 7. I am aware of a large number of student complaints regarding their educational experience here as registered in the campus newspaper, meetings with faculty members and administrators, or other public forums. | 1 | 2 | 3 | 4 | 5 | —143 |
| 8. There is a very high emphasis on activities outside the classroom designed specifically to enhance students' **personal, non-academic** development. | 1 | 2 | 3 | 4 | 5 | —144 |
| 9. There is a very high emphasis on institution-community or institution-environment activities. | 1 | 2 | 3 | 4 | 5 | —145 |
| 10. Students develop and mature in non-academic areas (e.g., socially, emotionally, culturally) to a very large degree directly as a result of their experiences at this institution. | 1 | 2 | 3 | 4 | 5 | —146 |
| 11. A very large number of community-oriented programs, workshops, projects, or activities were sponsored by this institution last year. | 1 | 2 | 3 | 4 | 5 | —147 |

12. Think of last year's graduating class at this institution. Please rate the academic attainment or academic level achieved by that class as a whole. (Select one)

_____ 1) That class is among the very top classes in the country.
_____ 2) That class is well above average.
_____ 3) That class is slightly above average.
_____ 4) That class is about average.
_____ 5) That class is slightly below average.
_____ 6) That class is below average.
_____ 7) That class is near the bottom of classes across the country. —148

13. Estimate what percent of the graduates from this institution go on to obtain degrees in graduate or professional schools.

_____ 1) From 91% to 100% of the students here go on for advanced degrees.
_____ 2) From 76% to 90% go on.
_____ 3) From 61% to 75% go on.
_____ 4) From 46% to 60% go on.
_____ 5) From 31% to 45% go on.
_____ 6) From 16% to 30% go on.
_____ 7) From 0 to 15% go on to obtain advanced degrees. —149

## Performance and Actions of the Institution (continued)

**Please use the following scale in responding to the following questions**

| | | | |
|---|---|---|---|
| **7** — All | **5** — More than half | **3** — Less than half | **1** — None |
| **6** — A large majority | **4** — About half | **2** — A small minority | |

14. _____ How many students would you say engage in extra academic work (e.g., reading, studying, writing) over and above what is specifically assigned in the classroom. —150

15. _____ What proportion of the students who graduated from this institution last year and entered the labor market obtained employment in their major field of study? —151

16. _____ How many students would you say attend this college to fulfill definite career or occupational goals as opposed to attending for social, athletic, financial, or other reasons? —152

17. _____ Of those students who obtained employment after graduating from this institution, for how many of them was career training received at this institution important in helping them obtain their jobs? —153

18. _____ If given the chance of taking a similar job at another school of his or her choice, how many faculty members do you think would opt for leaving this school? —154

19. _____ If given the chance of taking a similar job at another school of his or her choice, how many administrators do you think would opt for leaving this school? —155

20. _____ Estimate how many faculty members at this institution are personally satisfied with their employment. —156

21. _____ Estimate how many administrators at this college are personally satisfied with their employment. —157

22. _____ How many faculty members at this institution would you say published a book or an article in a professional journal, or displayed a work of art in a show last year? —158

23. _____ What proportion of the faculty members would you estimate teach at the "cutting edge" of their field—i.e., require **current** journal articles as reading, revise syllabi at least yearly, discuss current issues in the field, etc.? —159

24. _____ How many faculty members at this college are actively engaged now in professional development activities—e.g., doing research, getting an advanced degree, consulting, etc.? —160

25. _____ Colleges may be rated on the basis of their relative "drawing power" in attracting top high school students. In relation to other colleges with which it competes, what proportion of the top students attend this institution rather than the competition? —161

This section asks you to rate your perceptions of the general day-to-day functioning of the overall institution. Please respond by **circling** the number that best represents your perceptions of each item. If you agree strongly with one end of the scale, circle a number closer to that end of the scale. If you feel neutral about the item, circle a number near the middle of the scale.

*FOR EXAMPLE:*

**How is the weather in this town?**

warm, bright, and sunny — 1 (2) 3 4 5 6 7 — cold, wet, and dismal

**How do you perceive the following?**

26. **Student/faculty relationships**

unusual closeness, lots of informal interaction, mutual personal concern — 1 2 3 4 5 6 7 — no closeness, mostly instrumental relations, little informal interaction —162

27. **Equity of treatment and rewards**

people treated fairly and rewarded equitably — 1 2 3 4 5 6 7 — favoritism and inequity present, unfair treatment exists —163

## Performance and Actions of the Institution (continued)

28. **Organizational health of the college**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| college runs smoothly, healthy organization, productive internal functioning | 1 | 2 | 3 | 4 | 5 | 6 | 7 | college runs poorly, unhealthy organization, unproductive internal functioning —164 |

29. **General levels of trust among people here**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| high suspicion, fear, distrust, insecurity | 1 | 2 | 3 | 4 | 5 | 6 | 7 | high trust, security, openness —165 |

30. **Conflicts and friction in the college**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| large amount of conflict, disagreements, anxiety, friction | 1 | 2 | 3 | 4 | 5 | 6 | 7 | no friction or conflicts, friendly, collaborative —166 |

31. **Recognition and rewards received for good work from superiors**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| recognition received for good work, rewarded for success | 1 | 2 | 3 | 4 | 5 | 6 | 7 | no rewards for good work, no one recognizes success —167 |

32. **The amount of information or feedback you receive**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| feel informed, in-the-know, information is always available | 1 | 2 | 3 | 4 | 5 | 6 | 7 | feel isolated, out-of-it, information is never available —168 |

## SECTION 9: Respondent Demographics

**These items ask for some personal demographic information. This information will not be used to try to identify you, rather it simply will help us in our analysis of the questionnaire data. Please answer each item.**

1. In what year were you born? _____ —170 171 172 173

2. In how many organizations have you worked in your professional career? _____ —174 175

3. How many years have you held your current position? _____ —176 177

4. Are you male _____ or female _____ ? —178

5. Have you received degrees (i.e., bachelors, masters, or doctorate) in any of the following fields? (please check all that apply)

_____ 1) Business administration
_____ 2) Educational administration
_____ 3) Public administration
_____ 4) Health Care administration
_____ 5) Personnel or Industrial administration
_____ 6) Other administration fields —179

6. In what field did you receive your last degree?

_____ 1) Humanities (e.g., literature, languages)
_____ 2) Fine Arts (e.g., music, sculpture)
_____ 3) Physical Sciences (e.g., physics, chemistry)
_____ 4) Biological Sciences (e.g., zoology, botany)
_____ 5) Social Sciences (e.g., sociology economics)
_____ 6) Mathematics and Computer Sciences
_____ 7) Professional Fields (e.g., law, engineering)
_____ 8) Administration Fields (educational, business)
_____ 9) Other _____ —180

7. How many years have you been affiliated with this institution? _____ —181 182

8. What is your highest academic degree?

_____ 1) Doctorate or other terminal degree
_____ 2) Masters
_____ 3) Bachelors
_____ 4) Associate —183

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Appendix 3

Comments from interviews pertaining to the
Institutional Performance Survey

## Section 1-External Environment

### Enrollment Predictability.

1. Major factors outside our institution that affect its enrollments have become more predictable over the past few years.

   (A) I know what to expect during recessions. . . I know how major changes in the economy affect us.

### Revenue Predictability.

2. Major factors outside the institution that affect its enrollment have become less predictable over the past few years.

   (N) It's a matter of second guessing the legislature.

### Competitor Predictabiltiy.

3. Competitive action of other colleges and universities have become more predictable over the past few years.

   (N) X will always be up to something. . .what does "predictable" mean?. . .

### Students' Tastes and Preferences.

4. The tastes and preferences of students have become harder to forecast over the past few years.

   I don't know about other departments, but I know if I offer a course one year and enrollment is low, I don't offer it again.

   Our students are primarily looking for jobs.

### Intensity of Competition.

5. Competitive actions of other colleges now affect this institution in more areas.

### Enrollment Competition.

6. Competition with other colleges and universities for student enrollments has increased over the past few years.

Supply of Students.

7. The number of potential students from whom our institution can recruit has increased over the past few years.

I'd say yes based on population demographics.

Availability of Financial Resources.

8. Financial resources have become more difficult to obtain over the past few years.

. . .things aren't easy, but there hasn't been a substantial change.

## Section 4-Institutional Functioning

Specialization.

1. This institution has many administrators performing specialized functions.

(A) I don't think about the "many" wording, but whether we have people working on specific kinds of tasks.

(A) There seem to be a lot of people doing specific kinds of things.

(A) It reflects the role differences on campus.

(?) It's difficult to interpret what this means. What does "many" mean? We have specialists.

I'm a dean, I have a specialized function. However, I could see others taking this to mean that there are too many administrators.

(N) There are people who do specialized kinds of things, however, many of these could do different jobs with little additional training.

Formalization.

2. Formal policies and rules govern most activities at this institution.

(A) From a student affairs perspective. . .the mentality is that if you break rules, you open yourself up to all kinds of problems.

(A) There are handbooks for most things. . .but when things need to get done, you find ways.

Yes and no. The majority of activities are operated by policies and rules -- tenure, grading. No, in the sense of personal decisionmaking, there are frequent debates among faculty.

(D) This institution is not highly structured, it's flexible. WHAT DO YOU MEAN BY FLEXIBLE? Requirements, course times. Administration is not involved in these decisions. We can offer new courses without clearing it with anyone.

(A) Our problem is the union. It requires things be much more formal than one would like.

(N) At different levels there are different levels of formality, e.g., at the individual managerial level things are quite flexible. At the executive level the formality is useful.

Mission.

3. This institution has a special identity, unlike any other institution.

(A) The school was set up with a specific mission. . .however, it's probably not clear to many.

(A) It does, probably like most colleges.

(D) As a private, Jesuit, Catholic school we're unlike many other privates; but we're not unlike any other in higher education.

4. There is a general sense that this institution has a distinctive purpose to fulfill.

(A) If we're talking about this school being one which stresses a quality undergraduate education -- but it doesn't seem to be a distinctive purpose.

(A) This seems like the same question as the last one.

5. The academic programs offered here reflect the mission of the institution.

(A) We don't offer graduate classes here. . .we have unique programs.

(A) Its liberal arts and service orientation come to mind.

(A) Every time I go to the trustees I have to show how programs meet the mission of the institution.

(A) We've done a lot of talking here about our mission -- educating the whole person, not making them different, but fulfilling the whole person. We do this through our extra-curricular activities, and some of our programs.

I think we do this through establishing close personal relationships in the faculty. However, there are no formal mechanisms for indoctrinating faculty. Our expectations are often out of line with the tools we give them.

6. People associated with this institution share a common definition of its mission.

(D) Sitting on various committees, it appears that while people share a common sense of mission, they have very different desires for what and where it should go.

(A) People espouse common themes, but they're off in different directions. (CA)

(A) There is a sense here that this school offers a quality education, and deals with undergrads on a personal basis.

(A) It's a kind of service to humanity. . .through its graduates that will go out to be engineers and lawyers.

(D) Most of us know what the mission and goal statement says, but most generally have a vague sense of what it means.

Investor Confidence.

7. Those who make a personal or financial investment in this institution believe that they receive an ample return.

(D) Currently there is a major hassle between faculty and administration over salaries. . .my opinion is clouded by recent disputes.

(D) What does "financial investment" mean? What our job is?

(?) Who do you mean? Alumni, donors, parents, students? I hear a great deal of satisfaction from old alumni.

(A) I assume you're talking about benefactors. Well, they generally return to give again.

I don't know about financial, but personal -- yes. Those front line managers and directors of departments.

Structural Coupling.

8. The activities of the various units in this institution are loosely coordinated or loosely coupled.

(A) Department X does its thing. Professionals are more committed to their individual disciplines than their departments, their school, or the institution.

(A) There is no administrative guidance. . . It doesn't exist

(?) What does "unit" mean? Departments? No, because of the structure of departments.

(?) What does that mean? Various colleges come to mind, and student services. There's very little coordination -- but I don't mean this in a negative sense.

(N) At times projects are well-coordinated. Other times, the right hand doesn't know what the left is doing.

Centralization.

9. Major decisions are very centralized.

(D) Within any division things may be centralized. . .it's not clear. I have difficulty envisioning what this means. . . I think of the extent to which decisions occur from a give and take situation.

(A) Major decisions are made by administration.

(D) We will institute a new major in communications. The decision had to go to the trustees, but this was just pro-forma.

(?) What do you consider a major decision? An immunization policy, or student discipline?

Planning.

10. Long-term planning is neglected.

(N) Yes and no. . . Things were set in motion, but current events over-power intents.

(D) I see new programs, financial campaigns, building programs, creation of new courses.

(A) We need more. Not very much of it is done in either the financial or academic side.

(SD) We do a lot of talking, but I haven't seen the results.

Innovation.

11. Innovative activity is increasing.

I strongly dislike the "increasing/decreasing" language in the questionnaire. What if things were consistently high or low, how should I respond?

(A) People receive support for new ideas here, although not as strong as it used to be, this is the fault of the deans not the president.

(N) Activity is fairly stable -- that is, we have new programs and such, but this has been fairly constant.

Scapegoating.

12. Top administrators are often scapegoats.

Do I mark it high if I think they are responsible for problems, or because they're held accountable for things not under their power?

(A) Administrators take the heat for unpopular decisions.

With the deans, criticism is just -- they are in error. With respect to the president, perhaps due to his invisibility.

(A) If there is a serious problem, that's the first place you usually look -- but there have been no major problems in the past few years.

Resistance to Change.

13. There is a lot of resistance to change in this school.

(A) Deans put proposals forward, but the programs are always stopped.

(D) Change always needs to be debated, but there is little resistance -- the most being on the part of students.

(D) Relative to other schools, no. Educational institutions are, by nature, conservative.

Administrative Turnover.

14. There is a great deal of turnover in administrative positions.

(D) There's not much turnover except due to death.

Seems the same as in other schools.

Morale.

15. Moral is increasing among members of this institution.

I can't answer because I don't know how most others feel. . . I can tell you how my morale is.

(?) Perhaps not increasing, but it's quite high. It was higher under the previous 2 presidents.

(A) Other institutions are scrounging for institutions. Our applications are increasing.

Slack Resources.

16. We have no place that we could cut expenditures without severely damaging the school.

(D) Administrative positions have a lot of fat.

(A) The development office and student services.

(D) Athletics, marginal or small programs.

Interest Groups.

17. Special interest groups within the institution are becoming more vocal.

(D) There are no special interest groups here.

(D) Moral is generally high. It's difficult to define special interest groups here.

Administrator Credibility.

18. Top administrators have high credibility.

(D) No decisions are being made. They keep power and money for themselves. They work for themselves.

(?) What do you mean by top administrators? The deans? They are very weak. There is no evidence against the president or VPs.

(A) People are generally pretty satisfied with the decision-making process here.

Reallocation Priorities.

19. When cutbacks occur, they are done on a prioritized basis.

(D) Things are done by whim. There is never a clear discussion of priorities.

They haven't occurred.

(N) They haven't occurred. . . Thank god we haven't had to deal with this problem.

Conflict.

20. Conflict is increasing within this institution.

(N) I really can't answer because conflict has always been high.

(?) Most people are very satisfied even though they gripe.

Locus of Control.

21. Top administrators believe that factors outside the institution largely determine its condition.

(A) It's convenient to make the legislature and economy scapegoats.

D: They know they have to be realistic and attend to what's going on outside.

?: I don't really know. I have my personal feelings. . .we have top faculty and outstanding students -- these determine our condition.

Internal Mobility.

22. Top administrative positions are now held by individuals who were promoted from within the institution.

(N) Some are, some aren't. . .oftentimes positions are filled by friends.

A: President and AVP-finance were promoted from within.

## Section 5-Institutional Culture

### Institutional Culture.

The instructions are confusing. I had to go back and redo my answers. It's extremely difficult for me to distinguish between many of these. I don't associate the same things with a "personal place" that you do. I don't agree with your description/distinction between the types -- e.g., between entrepreneurial and production. A place can be both.

I found the distribution of points idea very confusing and difficult.

## Section 6-Institutional Strategy

### Diversity.

1. We are making our programs more diverse.

   (A) New programs keep cropping up. . .but is diverse good or bad?

   (A) There's a new TV program, a communications program, a new system of minors and double majors.

   (N) Programs are more diverse than they used to be, but there's not been much change in the last few years.

2. We are changing the composition of our student body, making it more diverse.

   (N) I don't know how to answer, we have always served a very diverse clientele.

   (A) We are attempting to do so; there's more nationwide recruiting.

### Conservatism.

4. This institution tries to insulate itself from pressures in the environment.

   Insulate? Shouldn't it? It's a very loaded word. Is it like being an ostrich, or being smart?

   What does that mean? Tuition keeps going up?

   (D) I think of much of what went on around here in the 1960s.

7. Our top administrators educate important outsiders about the value of the institution in order to improve its legitimacy in their eyes.

I don't know what they do. I've seen them on TV.

(A) We put a lot of dollars in PR; we just finished a big fund raising drive; there's a heavy development emphasis.

Moderate Change.

5. This institution tries new activities or policies, but not until others have found them successful.

Sounds like the prudent way to go. . . If I answer positively, does that make the institution look good or bad?

(D) No matter what the institution says about itself.

(?) I don't know, there's the MBA program.

8. This institution seems to do more of what it does well, to expand in areas where we have expertise.

This question seems very poorly worded. The first part is a truism. The second part seems like a reasonable question.

It attempts to do that -- e.g., there have been a series of institutes, our values orientation as a catholic school.

Innovation.

6. This institution is likely to be the first to try new activities or policies.

Isn't this the same as question #5?

9. This institution establishes new domains of activity.

(N) Not really new activities.

Administration.

3. We are increasing the investment of the college in functions that deal with external people.

There are agencies in place to do these things. However, I don't know how you calculate change.

(A) We seem to be doing that -- there's the emphasis on development.

There is a much larger admissions staff and counselors; minority recruitment, development office.

11. Top administrators emphasize finding new money, more so than saving money, for a balanced budget.

(D) . . .people are penalized for finding new money. There is no support for such efforts except at the departmental level. There is not even copying support; there's no rewards, in fact there are disincentives personally and professionally.

(?) What should I say. We do both. People wonder when the development push will pay off.

12. The top administrative team has developed multi-year strategies to achieve long-term institutional objectives.

(D) There are none. . .no vision. . .no attempt to specify priorities.

(D) I don't see any evidence of this. When asked to participate, these activities seem to go nowhere.

13. The top administrative team receives rapid and accurate feedback about enrollment and financial conditions.

(?) I don't know. . .messages are mixed and we need to know [about what's happening to the school]. . . People are prepared to deal with realities, but they don't like to be lied to, or have soft data.

(A) They seem to be really up on this.

14. The top administrative team provides incentives for conserving resources.

(D) There does not seem to be any effort to conserve resources.

## Section 7-Resource Allocation

### Bureaucratic Allocation.

1. This institution has a standard set of procedures it uses to make resource allocation decisions.

(A) There are clearly specific processes that must be gone through.

(D) I don't see a whole lot of standardization around here -- especially in resource allocation.

(?) I don't know how things are done at the institutional level. There seems to be small struggles going on, at least there don't seem to be standardized procedures.

(A) Yes. . . Whoever screams the loudest.

7. Resource allocation is decided bureaucratically at this institution.

(A) There is a system which is strongly bureaucratic. It's very formal. At the same time it does allow for appeals.

Autocratic Allocation.

2. One individual at this institution makes all recourse allocation decisions of any consequence.

(D) It's simply not true -- there's the Board of Trustees, the VPs.

(S) From what I can see, they seem to be made by executive officers.

(S) This year student services had major cutbacks.

(?) I have no idea who makes decisions. . .the business office is a total mystery to me.

Collegial Allocation.

3. People at this institution make resource allocation decisions collegially.

(A) At the departmental level, yes. However, at the institution level, politics prevail.

(A) At least in my own department. We divide classrooms democratically.

(A) While it's not done by committees, it often occurs through recommendations.

9. Resource allocation is a matter for group discussion and consensus.

(?) It is within departments, not within the college. Departments are in the dark about what's going on in other places.

Rational Allocation.

4. A rational process is used to make resource allocation decisions at this institution.

(A) We attempt to do it rationally,. At least there is no Buddy System.

(A) At the departmental level, yes. However, at the institution level, politics prevail.

10. Resource allocation decisions are based on what objectively seems best for this institution overall.

(A) This year, the academic budget increased, and student services did not.

Allocation as Organized Anarchy.

5. No particular pattern characterizes the process by which resource allocation decisions are made here.

What do you mean by "pattern"? There's a particular process. However, I don't know what other departments spend; or even what they pay their secretaries. One assumes equity, but one doesn't know.

11. Resource allocation is decided by coincidence; it is a matter of organized anarchy.

(D) The system alone obviates that possibility.

Political Allocation.

12. Persuasion, negotiation, and coalition-building are examples of what determines resource allocation.

(A) To some extent there seems to be an element of that.

## Section 8-Institutional Effectiveness

Student Educational Satisfaction.

5. There seems to be a feeling that dissatisfaction is high among students at this institution.

(N) They want more challenge. . .we're underestimating their ability.

(D) Which isn't to say we highly satisfy students. WHAT ARE MOST STUDENTS LOOKING FOR? To keep promises regarding personal treatment; a Catholic education -- even though they may not know what it is. With international students, location and a private school. In undergrads, most come here because it's a Catholic school.

(D) Students would move if they were dissatisfied . However, we really have no attrition data. There is a built-in loyalty over generations to this school.

(N) I don't have a whole lot of contact with students.

6. There have been relatively large numbers of students either drop out or not return because of dissatisfaction with their educational experiences here.

(A) There really is no follow-up. I can share my perceptions from advising. . .

I don't know. I haven't heard students say, "I'm leaving because I don't like it here." One of our problems is that we don't know why students leave. I don't know what the attrition rate is.

(N) However, there is a high attrition in nursing. Many students accepted in nursing never enroll here. There's no personal contact.

7. I am aware of a large number of student complaints regarding their educational experience here as registered in the campus newspaper, meetings with faculty members and administrators, or other public forums.

Most of us discount what we read in the campus newspaper. Our students seem to be shy about voicing public complaints.

(?) I don't know about the number.

Students are pretty passive today. I don't see much student unrest.

Student Academic Development.

12. Think of last year's graduating class at this institution. Please rate the academic attainment or academic level achieved by the class as a whole: scale 1-5 relative to other schools in the country.

(N) The question makes little sense since we really can't know what other institutions are like. . .we have little to compare with.

Probably above average. Classes vary from year to year.

13. Estimate what percent of the graduates from this institution go on to obtain degrees in graduate or professional schools.

I can't. There's no information. No real effort anyplace to keep track of this.

14. How many students would you say engage in extra academic work over and above what is specifically assigned in the classroom.

I think I may have left this blank or put neither. I really don't have any idea.

Less than half. Many just keep up. Students are not terribly intellectually curious. At the same time they have very heavy workloads.

Student Career Development.

15. What proportion of the students who graduated from this institution last year and entered the labor market obtained employment in their field of study.

I really don't know. . .since much of our enrollment is in professional classes, probably many.

I don't know.

Student Personal Development.

1. One of the outstanding features of this institution is the opportunity it provides students for personal development in addition to academic development.

(A) I don't know about the college, but you can see it in the school of Education.

(A) There are a lot of people on campus who are genuinely committed to helping students.

(A) The school provides opportunities but students don't always take advantage of them, e.g., counseling services in the dorms, and workshops, etc.

(D) I don't see a whole lot of personal development. Activities are pathetic. Many students just go home. During accreditation we were told to improve our advising system. Only just recently did we set up procedures so students have the same advisor throughout school. Before that it could change every year. With the economic crunch some of our theory classes have more than 70 students.

(A) You see faculty in the dorms, our small size, spiritual counselors. . .

8. There is a very high emphasis on activities outside the classroom designed specifically to enhance students' personal, non-academic development.

(D) It varies tremendously according to departments. Generally not, partly as a function of who our students are.

(A) Counseling programs, student services, chaplain programs.

(D) There's just none.

Faculty and Administrator Employment Satisfaction.

20. Estimate how many faculty members at this institution are personally satisfied with their employment.

I really have no idea.

It's hard to say. Nine or 10 months a year they're content. The other two months -- during tenure decisions -- you reach the peak of discontent.

21. Estimate how many administrators at this college are personally satisfied with their employment.

I really have no idea.

System Openness and Community Interaction.

2. This college is highly responsive and adaptive to meeting the changing needs of its external constituencies.

(A) It attempts to.

(D) There are no trend spotters. . .they have to buck the tide. Certain departments are, others are like dinosaurs.

(?) Changing needs? What do you mean? We've tried to provide more money for students. We thought about a reentry program but it never got off the ground.

Who do you mean by external constituencies? The community, health care in general, home care? Our curriculum must reflect what's happening in the external environment.

9. There is a very high emphasis on institution-community or institution-environment activities.

(A) Probably. . . I don't have any sense of what "institution-environment" means.

(?) Institution environment doesn't mean anything to me.

11. A very large number of community-oriented programs, workshops, projects, or activities were sponsored by this institution last year.

(D) Whatever is sponsored comes out of faculty member hides... Not only does the institution not support this, it sets up roadblocks.

(?) Culturally, foreign students aren't really well accepted here. However, there was a food drive that raised $6000 for Ethiopia. The values of the institution seem to be overwhelmed by those of our society.

Ability to Acquire Resources.

3. This college has a very high ability to obtain financial resources in order to provide a high quality educational program.

(D) Absolutely not. The Consortium simply does what it wants.

(D) We can't get them as readily as we need them. I really don't know why enrollment dipped -- unless it's because we went up the previous year. I don't know where to lay the blame.

(A) Fund-raising campaign, matching grants; we've had strong alumni support over the past few years.

(D) Most resources come from donations and gifts. There is very little grant money. We beat the bushes for student scholarships. The alumni association is very weak.

4. When hiring new faculty members, this college can attract the leading people in the country in their respective fields to take a job here.

(D) Absolutely not. When we get them, administration refuses to accept them. We can't even advertise nationally. . .there's no travel money to bring them here.

I don't know anything about hiring new faculty. I don't know if our salaries are adequate for SF.

(?) Yes and no. We compete with Stanford and Berkeley for faculty, on the other hand housing is so expensive.

(D) The only reason people come here is because it's in California and the bay area. Our nursing program does not attract national people.

Organizational Health.

26. Student/faculty relationships.

(A) Probably ok. I really don't know.

(D) Faculty are always available to students.

Close -- I went to a state school, faculty doors are always open here.

1: There's lots of informal activity. Faculty give students their home phone numbers.

27. Equity of treatment and rewards.

(D) Because of who gets salary increases.

2: Faculty people that have produced -- research and teaching -- have received them.

You will hear of alleged inequitable treatment. But everyone wants to be judged on their strengths -- which is not necessarily what the institution is concerned with.

There are probably still some inequities. My concern is in the area of affirmative action -- it's difficult in the humanities, they're always going to be behind in salaries.

28. Organizational health of the college.

(A) By this definition it seems to do ok in spite of itself. However, I don't agree with your definition of organizational health. . . I think of employee satisfaction and development, influence on decisionmaking.

(A) The institution runs smoothly, there are occasional gliches.

2: The college runs fairly smoothly. It seems to be pretty well organized. People know who they should report to.

29. General levels of trust among people here.

3: Many faculty members feel there is not much openness. . . I think this president is no different than the others in terms of sharing information. . . I don't think there is a conscious desire for secrecy here.

There's very high trust -- but openness is a problem. The church itself is autocratic. What is accepted here would not be accepted on a state campus. People tend to trust priests even though they're not open. HOW DO YOU DEFINE OPENNESS? I think of resource availability -- no one informs faculty about how many funds are used.

There is some distrust on the part of the faculty. This resulted from the merging of the colleges without any consultation; and because they tried to change the semester system.

30. Conflicts and friction in the college.

4: People are pretty friendly here. . . One reason for this is that top administrators are pretty accessible.

Who are you talking about? Staff, students, faculty; and where? There is some friction in some departments -- this is probably normal where people work together.

32. The amount of information and feedback

(A) There's an organizational newsletter. . .and a lot of discussion in my group.

2: Lots of things I don't care about. We're adequately informed about important things.

It's hard to answer. Oftentimes the priests don't realize others want to know what's going on. In part, it's a response to when lay faculty were simply suffered here as an unavoidable necessity.

Sometimes the president sends out letters, but often after the fact. My concern now is with a new personnel system that they've decided to put in place without informing anyone.

Appendix 4

General Written Comments from
Institutional Performance Survey Respondents

Many of the responses in this questionnaire must be taken with some reservation since there is no place to circle which corresponds precisely to my true feelings. Responses, therefore, must be judged to be approximate.

I think this questionaire (sic) is a ridiculous waste of time.

I have not answered questions I cannot understand -- what, for instance, is a prioritized basis? In other cases I agree with part, but not all of the statement to be considered.

1. Some questions either too broad or too vague.
2. Many responses would be different if in respect of the university as a whole vs. the particular college in which I function.

Sorry I'm late with this.

There are subtleties that the responses don't allow. I'm not as critical as some of the answers suggest or as enthusiastic as others may suggest.

Moreover, some of the answers or questions allow only for labeling a stereotype upon a particular activity or feature and, therefore, do not evaluate with any depth. This was particularly true of the resource allocations process or non-process that is used here. It would take many pages to explain the process here and I'm not sure any of it would be helpful or accurate after it was explained.

Very interesting and well constructed instrument.

Several questions made me feel as though I were a "hostile witness." Your answer really reflects assumptions as to the questioner's intent (sometimes difficult to divine).

Questionnaire is much too long. I question the validity of responses to questions beyond the first two pages.

A very comprehensive questionnaire. It is easier to answer the questions in many cases based on what happens within your own academic department. We are isolated somewhat in my college from others so I found it difficult to answer many questions. For example -- our department is very close to the students personally but I know that this may not be true of other departments? Can we see the results somewhere?

A waste of my time and the school's money.

Section 6 instructions are ambiguous -- i.e., is the item presumed to be a fact and I agree or disagree with the strategy or is the item a question of fact and I judge whether or not it is true or false and to what degree? Perhaps a clearer wording of the instructions.

Apart from the good questions -- I felt your options should have included N/A and "don't know" especially in area of what students do upon graduation.

You ask many questions of a factual nature which I could not answer accurately. Also, I have answered many questions rather negatively; although spirits are much higher here this year than last, memories die hard. I am hopeful and optimistic for the future.

I'm in the law school and do not have enough information about how the university currently operates to answer most of your questions except with impressions and assumptions.

Difficult to relate this to University as a whole -- would be much more accurate data if based on school or department? As there is much variation here.

I hope we're not paying for this study -- too many generalities.

Excellent questionnaire.

Union/administrator conflict have influenced morale of entire university.

VP Business/Finance not an academic, runs roughshod over everyone. THE single biggest problem since he is protected by President.

I am very happy to see this type of self-study conducted at X. It is very much needed. We need to bring the secrecy and suspicion to an end, and develop more consultation and consensus in decision-making, more communication about decisions and their rationale, and less autocratic attitudes projected by the top financial management.

What are you going to do with the results of this questionnaire? Respondents should be informed of survey results and what actions, if any, the top administration of X intends to take as a result of it.

Good questionnaire. Good, relevant questions. Not enough questions about the Board of Trustees, who hold the bulk of power at this institution.

The questionnaire mixes up the terms "college" and "institution." Some of the questions are clearly not appropriate to the law school or the school of management.

I answered questions as if they were being directed to the Law School and university administration, not to the college or management schools.